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ORIGINAL COMMUNICATIONS.

MALARIA AN ÆTIOLOGICAL FACTOR IN ASTHENOPIA.*

BY J. LAWTON HIERS, M. D.,
Savannah, Ga.

Mr. President and Gentlemen:—In accepting the invitation of the Chairman of the Committee on Program, to read a paper at the present session of the Medical Association of Georgia, I was for a time at a loss to know what subject to select, but finally concluded that it might prove of interest to report my work in asthenopia for the past two years, more particularly a form of asthenopia in which, by the use of the microscope, we have found the malarial plasmodia in abundance, and with an anti-malarial treatment proven malaria to be the chief ætiological factor; and to discuss a few practical points connected with the trouble.

The term asthenopia, like that of a few other terms in the medical vocabulary, is a very convenient one, though very incomplete from a diagnostic standpoint, and expresses practically nothing as to the pathology of the affection of which the patient complains.

Lexicographers define the term as weak, painful vision—diminution in the power of vision accompanied by pain, especially when the patient attempts to use his eyes for any length of time. Most writers have recognized an anatomical or physiological abnormality as the chief cause of the trouble, hence accommodative, muscular, intraocular or nervous asthenopia. Of the several groups, the first comprises the larger number of cases, which in most instances with the proper adjustment of glasses the patient is entirely relieved. In the second group, though they are not so numerous, we find many of the worst cases of asthenopia, which I am in favor of relieving by the proper adjustment of prisms, when it is possible to do so; but when it is not I should at once advise surgical interference. I am aware of the fact that some writers hold that all cases of asthenopia are caused by either ametropia or heterophoria, but in intra-ocular, or nervous asthenopia, I desire to call your attention to malaria as one of the chief ætiological factors. I do not wish to be placed in that class of physicians who make a "Hobby horse" of malaria for every ailment of the human family, but it is an established fact that we have many diseases caused by malarial poisoning other than malarial fever, among them hæmoglobinuria without fever, enlargement of the spleen, malarial neuralgia, motor ocular paralysis, etc. Now, with this knowledge of the effects of malaria on the liver, spleen, kidneys and nervous system, who can doubt but that it also affects the optic nerve? In many instances it most assuredly does.

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* Read before the 49th Annual Meeting of the Medical Association of Georgia, at Cumberland Island, Ga., April, 1898.

In the early part of July, 1896, I discovered my first case of malarial asthenopia, when a young lady, Miss N., of 18 years, accompanied by her father, presented herself for treatment; family history good, physical condition rather robust, and her health otherwise apparently perfect. She reported that about the middle of the previous winter her eyes became so weak and painful that she was forced to leave college, and consult a physician; from that time until she called to see me she had consulted two well-known oculists, from whom she claimed to have received only temporary relief. An examination revealed a clear media, and otherwise healthy fundus. The external muscles and appendages were perfectly normal, save a very mild form of catarrhal conjunctivitis, which was promptly relieved with a mild antiseptic astringent wash. I went over her refraction very carefully. She was able to read 20-15 with either eye with ease, but could hold it only for a few moments. After two examinations I prescribed Lens x., 25 D. Cyl, ax 90°, which afforded her some relief, but she continued to suffer, and I was forced to look for other than the usual causes of asthenopia. After watching and studying her case for several days I observed a decided periodicity in her asthenopic paroxisms, one of the chief characteristics of malaria. On questioning her further she informed me that she had never had malarial fever, but that she was raised, and had lived all her life in a decidedly malarial district. Feeling much encouraged—yet somewhat at sea—I decided to put her on an anti-malarial treatment, and prescribed liberal doses of quinine bisulph and arsenious acid in combination. After three days' treatment with this remedy she was entirely relieved of all pain and weakness of vision, proving very clearly, to my mind, that malarial poisoning was the cause of her trouble. The treatment was continued for a few weeks, to thoroughly eradicate the malaria from her system. She was again able to enter college the following fall, and is now concluding her second term in college since my treatment of her. I have seen her several times, and she informs me that she has been able to pursue her studies without the slightest indication of her former trouble.

Case second is of much more recent date than the majority of cases which I shall report, but I give it in detail on account of its peculiar interest—it being purely of a malarial origin. James E., a negro, age 28, a native of the West Indies, though he had lived in this country about five years, occupation, a hotel waiter, called to see me December 3rd, 1897. He complained of intense eye pain and weakness of vision. On examination I also found him to be suffering with an acute conjunctival catarrh, which I at once concluded was the cause of his trouble. I prescribed the usual treatment, including a pair of dark glasses. By the end of the third day the conjunctival catarrh was entirely relieved, but he claimed that he could realize no improvement.

An examination of his eyes with the opthalmoscope revealed a perfectly clear media and otherwise healthy fundus. An examination of his refraction and the external muscles proved them to be in a perfectly normal condition.

An examination of his blood showed malarial plasmodia in abunbance, almost every blood cell containing one or more parasites. His general condition was looked into and he was found to be in a healthy condition other than a slightly torpid liver, which was promptly relieved by a mercurial purge. At no time was I able to detect a rise in his temperature. He stated, however, that about two years previous, when on a visit to the West Indies, that he had an attack of intermittent malarial fever, which lasted fourteen days. I prescribed for him large doses of quinine, arsenic and strychnia. I saw him two days afterwards, when he reported some improvement. Three days elapsed, when I observed a decided improvement in his condition. The treatment was continued, and in the afternoon of the eighth day after the beginning of the anti-malarial treatment he called to see me and said he was entirely relieved, and that he experienced no difficulty in using his eyes even in a very bright light.

To guard against the recurrence of his trouble the treatment was continued for about ten days more. I have seen him twice since and he reports that he has experienced not even the slightest difficulty in using his eyes under the most adverse circumstances.

I desire to call your attention to two forms of malarial asthenopia which I have observed, viz, acute and chronic. The acute form, which is seen most frequently by the family physician in the treatment of malarial fever. Almost every physician who is familiar with malarial fever can recall the complaints of many of their patients of eye pain and weakness of vision, more particularly when subjected to a bright light.

The chronic cases come more frequently under the care of the oculist, and may be associated with accommodative or muscular asthenopia, or both. Since July, 1896, I have treated 37 cases of asthenopia, 14 males and 23 females, divided as follows: 7 males and 10 females were accommodative asthenopia, being entirely relieved by the proper adjustment of glasses; 3 males and 6 females were hypermetropic associated with malaria; they received the proper adjustment of glasses but without entire relief until they had received the anti-malarial treatment; 6 cases, 4 males and 2 females, were purely of malarial origin. One male with insufficiency of right internal rectus muscle with normal refraction, but with malarial plasmodia in abundance, was entirely relieved by large doses of quinine, arsenic and strychnia. One male with insufficiency of left internal rectus, after a thorough trial with prisms, was relieved only by a tenotomy. Two cases in females were found to be due to uterine reflex and referred to their family physicians. One case of neuresthenic origin. One female presenting insufficiency of right internal rectus, hypermetropia, and malarial plasmodia in blood in abundance. She is still under observation.

Thus in the past two years I have had nine cases of hypermetropic asthenopia associated with malaria, as proven by the microscope, and the beneficial results obtained by the anti-malarial treatment. Six cases were beyond question of purely a malarial origin. The parasites in abundance were observed in each specimen. And the good results of treatment were no less evidence of the true ætiological factor in these cases.

I am indebted to my friend, Dr. Ralston Lattimore of Savannah, for his assistance in the microscopic work.

THE UNDER SIDE OF THINGS IN A DOCTOR'S LIFE.*

BY HUBERT A. ROYSTER, A. B., M. D.,
Raleigh, N. C.

Inasmuch as the essayist of the North Carolina Medical Society is privileged to address a general audience, it seems fitting to select a subject which closely concerns both the profession and the laity. One of my friends is fond of saying that nothing is interesting unless it be of human interest. The brief remarks which I shall make this evening will have much to do with folks and human nature. The intention will be to speak simply some thoughts which constantly push themselves forward in the mind of one busied with daily trials in the practice of medicine, especially as these thoughts bear on the personal relations of doctor and patient. My years are few and my experience is small, and it is, therefore, not to be expected that this paper will contain long philosophical deductions founded on a broad, matured view of life and its struggles. Enough has come, however, to convince me that too little is known by the physician and his patient of their own bearings toward each other. We seldom stop to think how each appears in the smaller affairs of our existence.

Why do folks employ physicians? Most people send for a doctor because they are sick or think they are sick. That seems reasonable enough. There are some who must have a doctor because it is "the thing" to do, even when they believe a physician's services are not needed. Others for various reasons or excuses refrain from sending at the proper time, when they know they should do so. A curious phase of this question is presented by the man who refuses or avoids medical counsel because he is afraid the doctor will put him to bed, cut down his diet or tell him to stop his work and rest. Now, the man himself realizes at once that he ought to do these things; if not, why should he suppose that the doctor would so advise him? The physician has no desire to control a man's habits, to regulate narrowly his life, and to place restrictions upon him. He would gladly cure his patient without these. If it is the doctor's opinion that the sick man should lie in bed or be put on a liquid diet, this seems to be the only course to pursue. It is the only one pursued by those who have made up their minds from first to last to do right, regardless of their own feelings. How difficult it is for us all to sacrifice our personal desires for what our consciences tell us is the absolute right. A little boy once said this was a hard, cruel world, because everything he wanted to do was wrong, and everything good to eat was unhealthy. Are we not all children of a larger growth? But these people of whom we have been speaking are those who cry with much vehemence: "Oh! yes, always do what your doctor tells you; what's the use of having a doctor and paying him, if you don't follow his directions?" The only use in their cases seems to be to do just what they please—to carry out just as much of the physician's orders as will not conflict with their own likes or dislikes. By large classes of people, doctors are looked upon as chronic objectors, who go about seeking to find something which they can order some body to stop. Let me say emphatically that the doctor is not an autocrat, a tyrant, an ogre, not even an exhorter or a pleader, but a medical adviser in the passive voice. There should be no getting down on the knees and begging the patient to do his bidding. The man is a free-will agent; he consults the doctor; a certain line of treatment is advised; the man is at liberty to carry it out or not as he chooses. The responsibility of the medical man ends with the advice given. Many imagine it is to please the physician that they obey his orders, and that they confer a great favor on him every time they take a dose of medicine. It is hard to make them see that the treatment is intended to do good to them, not to the doctor. Like school children, who are constantly endeavoring to shirk any duty, they fail to see that they are cheating themselves, not the teacher. Another still stranger feature is seen in those who send for a doctor in whom they have confidence, buy the medicine that he prescribes—and that's the last of it. The ways of such people are like the ways of Providence—"past finding out."

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*Annual Essay, read before the North Carolina Medical Society at Charlotte, N. C., May 4, 1898.

It is the physician's duty to answer all calls as promptly as possible. Complaints are being continually hurled at our heads for not getting to the patient as soon as the patient himself or the friends think we ought. There are several things to say about this. Emergency calls usually, I may say always, receive immediate attention. In the ordinary rounds of practice, it is impossible to see every one first;

the doctor cannot be in several places at the same time. He must use his own judgment as to the order in which he visits the sick. Frequently several persons will send all but simultaneously, each one asking the doctor to stop by his house the first thing as he starts out. Time after time messages will be sent telling the doctor to come "at once," when on questioning at the time or on arriving at the house later it is found that no immediate attention was needed or expected by the patient. Very often the sick one will be in the kitchen or sitting up chatting with friends or, possibly, out for a little stroll. I have had occasion to observe in my own practice each of these circumstances. After such people cry "wolf" once or twice, the doctor learns them, and he acts accordingly. Can you blame him? With some in my own practice, a hurry call means to hurry and I always do so. I know they need a doctor's services. Others make day and night hideous with false alarms, so that it is hard to distinguish the true ring. What most of folks, sick or well, need to learn is that there are one or two more people in the world besides themselves, for love of self, more than the love of money, is the root of all evil.

People universally seem to be in the dark concerning the real relations of physicians to one another. "You doctors are so awfully formal in your ways," and "your etiquette is very peculiar," are expressions very frequently heard. Etiquette among physicians is founded upon ethics, or the art of doing right, and, defined as such, the way is perfectly plain. There will rarely be any friction between two doctors who are both gentlemen. A gentleman wants to do right. He may not always do it; but he wants to do it. Among the members of the medical profession everywhere there are some men who are not gentlemen, even though, in many cases, their outward conduct may be apparently straightforward. They are not gentlemen at heart. And their professional brethren know it most of all. Personally, I would rather one of my respected fellow-workers should consider me capable than that whole cities full of people should rise up and called me blessed. It is a fact, I think, that the layman is scarcely capable of judging a physician upon his merits. The majority of people employ a certain doctor because of his general reputation gained through outward impressions on themselves or on their friends and associates. They continue to employ him, granting that he has average ability, if he is personally agreeable to them, not, as a rule, on account of any particular skill he may possess. There is a very general impression among the laity that for most ailments any physician will do; that because a man is a doctor he must know and do the same that all other doctors know and do. Studying medicine of itself does not endow a man with a better or bigger brain, nor does it supply him with reasoning power not already his own. It only gives him some more facts—tools of the mind, and skill in the use of them, all in his own measure. Mental grasp, judgment, the ability to draw correct conclusions—these are all individual attributes, obtained by inheritance and developed by general education. No one could really expect a physician to reason more logically on matters in medicine than about those of every day experience. This inability of the layman to correctly criticize a doctor is the cause of the success of many men in the profession who are unworthy to be in it, and who become notorious by playing to the public.

The doctor has most abundant opportunities for studying human nature, that weak thing in us all, with which we excuse a multitude of sins. Did you ever think how mean human nature really is? We express it in a measure when we attempt to forgive everything low and vile in ourselves by saying: "Well, I can't help it; it's human nature." I believe it was Dr. Deems who said that there was "lots of human nature in folks as well as in hogs." The human nature in folks is of vital importance to the physician. He comes into closer relations with the people in a community than do either ministers or lawyers. A man whom the church and the law regard as immaculate may be known to the physician as a profligate in his inner life and a scoundrel at heart. The doctor carries with him the secrets of life, "even to the third and fourth generation." A trained eye and a careful physical examination sometimes tell the medical man all he wishes to know. This is fortunate, for there is nothing that the average person delights in more than to keep something from his doctor—a trait none but physicians (and observant ones) realize in its full import. It would be astonishing to the people in this audience if they could appreciate how often a man will sit in a doctor's office, where he has come to obtain relief, and lead the doctor off the track by telling deliberate falsehoods, and the patient would be equally astonished to learn in many cases that the doctor knows he is lying. Such things as this are of almost daily occurrence with busy and watchful physicians. Most men are naturally liars; some could not speak the truth if they tried; very many do not even try. It has been said that if you run out on the street any where and grab the first man you meet, nine times out of ten you have a liar. But, I was saying that doctors get very close to the people. They go into the home, into the family and learn every member of it, both in sickness and in health; for they study all the others while in attendance on the sick one. The remark is so often made that the doctor sees the sick man at his worst, on his back, suffering; and that, therefore, he should excuse the man for all sorts of weaknesses and meanness, on the ground that the man is not himself. I claim that the patient, unless he be delirious or comatose, is very much more himself, with his shell off, with his society manners laid aside and his true disposition revealed. His moral nature can then be observed in its primitive state. We can find out whether he is considerate of others, whether he is courageous in the presence of pain, whether he wants to do right. True, illness of any kind is apt to make one disagreeable, but it does not add anything new—only brings out the old. The moral nature in folks is indeed an interesting and profitable study for physicians. By this I do not mean the attribute in men which makes them religious, but the innate principle, the motive for doing things, good or bad. The study of nervous degeneracy and its hereditary influences is productive of valuable results. The lack of moral sense is often mistaken for feeble intellectual development. There are occasions when a doctor finds difficulty in having his directions carried out even after he has gone to great lengths in explaining them to some member of a family. The trouble is supposed to result from a want of understanding—and at times it may; but more often it is due to the fact that the person to whom the orders are given is absolutely devoid of a sense of moral obligation, and is arrayed on the opposite side always. Such a person never determined to do right about anything. Any one can comprehend a few directions simply stated, but it takes a person of strong moral nature to want to follow them implicitly.

It is wonderful how people neglect to take a doctor's advice, to what ends they will go to deceive him, and then how ready they are to blame the doctor if anything goes wrong. I will acknowledge that most people do not cast the blame on their doctor unjustly. But many do and generally for the most trifling reasons and without cause. Just as a physician commonly makes his reputation by the smallest things, so in the same way he often mars or loses it. The conscientious medical man throughout all ages and countries has silently steeled himself against this, and has plodded along,

"Knowing if he won the battle they would praise his Maker's name;
Knowing if he lost the battle, then the doctor was to blame."

This verse would serve as the text for a more elaborate effort than I feel able to undertake, but it suffices to show one other phase in human nature. The gratitude of patients is worth much to physicians, more sometimes than any price which could be paid. How many times, when a man is flat of his back, would he offer his whole fortune to get well, and when on his feet give nothing to the doctor in return save, perhaps, abuse for keeping him down so long; or promise fifty dollars before an operation and not even render thanks afterward.

"When the devil was sick, the devil a saint would be:
When the devil got well—the devil a saint was he."

Alas! how often it is that "gratitude is a lively expectation of more favors to come." In the experience of nearly all doctors among the most ungrateful patients are those who receive the largest amount of charity work. The man who gets the attention and pays his money for it feels that he has received full value, and is accordingly grateful. It has been said that if you wish to make an enemy of a man, do him a personal favor or lend him money.

Turning away from this baser side it is refreshing to know that there are higher and better things in a doctor's life. To feel that we have been instrumental in saving the life of even one human being, be he grateful or ungrateful, scoundrel or gentleman, is a noble and a satisfying reflection. Nothing can take from us the consolation arising from a knowledge of duty well performed, suffering relieved, death averted. And yet the moral attitude of his patient must always have its influence on the physician, who is also human. A doctor would prefer a whipping to entering the doors of some homes; there are others in which the hard work he does is never irksome. The difference lies wholly in the moral sense of the people themselves. It is natural to separate the chaff from the wheat; to cast some people entirely out of our lives while we grapple others to us with hooks of steel. A great part of the doctor's success lies in his ability to understand folks—their goodness and their meanness—to weigh their moral natures in the balance of cold logic. One ot the most important points in any diagnosis is to find out whether the patient is lying or not. If he is, discard the history and depend on your physical examination; if he is not, shake hands with him, but consider carefully what he says.

As this article is being rounded to a close I am reminded that it savors extremely of the pessimistic. And yet, the picture is not so black but that the light may be seen shining from behind the dark background. We cannot appreciate the good without knowing the bad. Nor can we do right unless we know what wrong is. I have brought before you here glimpses of the inner life of physicians (for we all have about the same sort of experiences) and the personalities of their patients. In doing this I have necessarily spoken of some evil, but with the hope that good may come. Doctors must not shut their eyes to the seamy side of nature, but must study both the good and the bad in the characters of their patients. Neither will it profit to look upon every patient as a "case," forgetting the finer, deeper elements within each individual. There is too great a tendency toward this in these later days, and it may not be amiss to say seriously in the language of another, that the human stomach is not a test tube and the human body is not a laboratory.

323 W. Morgan street.

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PUERPERAL ECLAMPSIA AND SOME PROBABLE CAUSES OF IT.*

By JAMES I. GRIFFITH, M. D.,
Danielsville, Ga.

I have been stimulated to present this paper because of the number of cases of puerperal eclampsia which have recently come under my observation.

Perhaps there is known to the medical profession but few diseases whose pathology is more uncertain, or one in which we have a more dread of its occurrence than we have in puerperal eclampsia. In presenting this paper for your consideration it will be necessary for me to review briefly what has been written on the same line by some others. This is a question of such grave importance to the practitioner, who has had to deal with puerperal eclampsia, that he has found it unsatisfactory to accept the statement, pathology and treatment of other authors. We are not all agreed as to the cause and cure. Dr. Hare, in his recent work on therapeutics, says, that what is known of its etiology justifies the following statement:

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* Read before the Georgia Medical Association, at Cumberland Island, April, 1898.

1. The cell activity of mother and foetus produces excrementitious substance which will surely prove virulently poisonous to the organs.

Assuming that it is true that nature imposes these new duties upon the organs of the child-bearing woman, and that it is the mother and not the child that will be poisoned, hence it is the mother's and not the child's excretory organs that must eliminate. He fails to tell us what particular organs must perform this work.

Dr. Potter insists that in order to arrive at an intelligent treatment there must be a clear understanding of the conditions we are called upon to treat. It must be understood that we are dealing with a subtle toxemia, not yet understood as to origin or material, nor even as to its modus operandi. Symptomatically, we usually have to contend with severe headache, edema, albuminous and scanty urine, diminished urea excretion, and finally cyanosis convulsions, and coma or semi-coma, pereclamptic state, and the last, true eclampsia. Again, the woman may be anemic or plethoric, young or middle aged, and eclamptic seizure may be antepartum, or postpartum, all these factors serve to control or modify the plan or treatment to be proposed in given case. The treatment of eclampsia, too, should be classified in the (a) preventive and (b) curative. The preventive may be subdivided into the medicinal and hygienic, and the curative into medicinal and obstetric. Manifestly the first duty will be to interrogate the kidneys as to its sufficiency and integrity. A qualitative and quantitative analysis of the urine must hence be made at the outset. Albuminuria is not a reliable symptom of real disease, nor yet is a diminution of urea excretion an infallible indication of approaching eclampsia, exceptionally all of these conditions may exist, and yet eclampsia not result. These are indications, singly and collectively, that there are existing toxemina, that there is defective elimination, and that there must be something done to correct a faulty relationship between nutrition and excretion. If the prodromes and the physical signs are recognized early it may be expected with reason that hygiene and medicine will correct the errors that are so rapidly tending toward eclampsia.

My first case was a primipara, about eighteen years old, rather small, and of slender build. I was not present at her confinement, nor had I seen her prior to that time. From reports she had been in bad health for several months, but still she did not consult a physician. She was delivered on a Saturday morning by a mid-wife, and from accounts had no serious trouble. She seemed to be doing well enough until the following Monday morning, when she was complaining of a severe headache and restlessness. Then she was seized with a convulsion. She had twelve by midnight Monday, when I arrived. In the intervals fever was high, most of the time ranging from 102 to 105 degrees. She was conscious next day, Tuesday, by noon.

The second case was a multipara. She was large and fleshy, and complained with headache and uneasy feeling. She was seized on Monday morning with a convulsion. When I arrived at six o'clock that evening, she had had ten convulsions. She was at full term. I made examination. The os cervix was not dilated. Something had to be done. I gave her three hypodermics of morphine and atropine from six until twelve. At two she became conscious and said she wanted water to drink. Still no sign of labor. I waited until next day, then labor came on and she got through all right without any more convulsions. I then put her on veratrum, and gave her calomel in broken doses, and followed it with senna tea. She made a good recovery without any more convulsions.

The third case was a primipara, blonde, general health good, was delivered of a healthy child by her physician. Next day, in the absence of her doctor, I was summoned to see her. She had had six convulsions. I gave her morphine and atropine hypodermically three times in four hours; then I gave her broken doses of calomel, followed it with senna tea, then put her on veratrum, six drops three times per day for several days. She made a good recovery without any more convulsions.

The fourth one was a multipara, age twenty-three, short and compactly built. I was summoned the next day, and when I arrived she had had four convulsions. I treated her as before. A good recovery in the usual period of time.

Some probable cause may be albuminuria, toxemia, pyelitis, pyelo nephritis.

After all, in my opinion, we must look to the kidney for the cause in the majority of the cases of puerperal eclampsia, though not to them entirely. The pressure on the uterus prevents a free outlet of the urine, and it is blocked up, so to speak, in the pelvis of the kidney, and there may undergo decomposition, and there cause enough irritation to set up an inflammation. This may soon become pyelitis or a pyelonephritis; as this, no doubt, helps to cause simple nephritis. In my opinion the examination of the urine in pregnant women is too often neglected, and even when we find pus in the urine, we pay too little heed to it. Albumen, I think, is one of the causes of puerperal eclampsia, for we always find it in examining the urine of pregnant women; and also pyelitis and pyelo nephritis bear its part. My opinion is, that the pregnant uterus pond up, as it were, the kidneys and the poison is left in the system that nature would have eliminated if it could. When I find albumin in the urine, I give chloroform in 10 m. doses ter die, in sweet milk.

MEDICAL TREATMENT OF INOMINATE ANEURYSM.*

By R. P. IZLAR, M. D.,
House Surgeon Plant System's General Hospital, Waycross, Ga.

ANATOMY OF INOMINATE ARTERY.—The vessel has a diameter of 14 M. Ms., and about from one to two inches in length. It is roughly represented by a line drawn from the centre of the manubrium to the sterno-clavicular articulation. The bifurcation would be most commonly reached by passing a probe backward between the sternal and clavicular portions of the sterno-mastoid muscles, but branches may be given off before the point of bifurcation, viz: thyroid, internal mammary or bronchial arteries, which would complicate matters. The vessel is separate from the sternum by the sterno-thryroid and sterno-hyoid muscles and remains of the thymus gland, near its root we find the left inominate vein; it is in close connection with the trachea and intimately related to the pleura. On the right side we have the right inominate vein and pneumogastric nerve, on the left we have the inferior thyroid vein and left caroted artery. In ligation of larger arteries inominate carries with it better prospect for success, especially in comparison wlth the first part of sub-clavian. The ligation has been performed 24 times with only two successful cases reported, where patients have survived the operation; one by Dr. Smythe, of New Orleans, patient lived ten years. Mr. Mitchell Banks, patient, lived 15 weeks. In all fatal cases death has followed from secondary hemorrhage, with two cases cited; that of Thompson, which lives 47 days and Grafes, 60 days. The great danger from this operation is secondary hemorrhage, which takes place apparently from the distal side of the ligation. The first operation was performed just 80 years ago by Dr. Mott, of New York; patient died of secondary hemorrhage on the 26th day.

PHYSICAL SIGNS OF ANEURYSM OF INOMINATE ARTERY.—INSPECTION.—The pulsating tumor usually appears in the neck between the tendinous origin, the sterno-mastoid muscle on the right side, or in the intra-clavicular notch, but may be seen as a pulsating tumor directly beneath, or at the side of the sterno-clavicular articulation.

PALPATION.—The first condition that would be noticed under this head would be that of disturbance or inequality of radial pulse. Difference in pulsation of carotids and non-affection of tibials.

AUSCULTATION.—Bruit, if constant, will be heard best over sterno-clavicular articulation, but this condition may not always be present.

OTHER SYMPTOMS.—Laryngeal cough, dysponea, pain, which may be localized or radiated, dependent upon amount of pressure produced by tumor and size of same; dullness on percussion at sterno-clavicular articulation, pulsating tumor at first inercostal space, inequality of radial pulse, that of right side being markedly less or entirely absent; marked emaciation and general debility, which condition may be mistaken, without careful examination, for tuberculosis.

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*Read before The Florida Medical Association at its meeting in Jacksonville, Fla., April 27, 1898.

Treatment.—Is either surgical or medical; surgical consisting of ligation of carotids, sub-clavian or both, which has been attended with some success.

Secondly, a cup puncture, which consists of passing a hypodermic needle into sack and filling same with sterile gold wire, thus assisting coagulation. Medical literature gives 14 instances in which, for relief of aneurysm of this artery, this distal ligation was applied to the carotids alone; in one single instance was this attended with success and a cure effected, and that after suppuration occurred and sack discharged 24 ounce of pus. Of these 14 instances 8 ended fatally, seven dying between the 2nd and 21st day, the six other died at the expiration of two months in variable lengths of time; death resulting either from consolidation or secondary hemorrhage. In distal ligation of the sub-clavian we have these results in comparison with the above. Three cases have been cited, that of Wordrop, Broca and Thomas Bryan as operators. Wordrop's case lived 24 years; died of pressure symptoms and systematic failure; Broca's lived 5 months, died of pulmonary gangrene; Bryan's lived one year with evidence of solidification of tumor. The weight of evidence would favor sub-clavian ligation, and it may be a point of interest to know that these arteries are ligated with cat-gut, sizes 4 and 6, in preference to silk.

Other methods, viz: that of McEwin's, of teasing the sack, which consists of inserting sterile needles and scratching sides of sack; of all surgical treatment we would consider this preferable, favoring the best results and attended with the least harm.

Medical Treatment.—Consists of absolute rest in bed, restricted diet, compression, either local, distal or cardiac, large doses of iodide of potassium, pushed to tolerance, for two reasons, the absorbative power, thereby the assistance of clot formation, and paramount, the importance of syphilis as predisposing factor in aneurysm, both directly as a disease affecting the vessel wall which would further the formation of an aneurysm in the vessel thus affected.

Case of S., colored, male, age 37, family history good, no specific history. Previous history: Patient contracted a severe cough in July, 1897, which did not abate under medical treatment; cough seemed dry and tickling, no expectoration. Patient gradually lost flesh, suffered from vertigo and roaring noises in ears.

Present Illness: In December, 1897, patient came to Waycross, and was admitted to the General Hospital of the Plant System of Railways, upon examination we found the man suffering from general debility, complaining of headache, which gradually grew worse, vertigo, insomnia, dry, hacking cough. After careful physical examination we found pulsating tumor at right sterno-clavicular articulation, radial pulse absent on right side, pulsation in right carotid markedly diminished, tibials equal and chest examination otherwise normal, with the exception of bruit, which was heard over sterno-clavicular articulation synchronus with heart beat, as were the pulsations of tumor. This patient was placed in bed, diet severely restricted, large doses of iodide of potassium and pressure over tumor was applied. Under this treatment the patient remained for four weeks, when he was allowed up, and physical examination revealed return of radial pulse on right side, diminution in size of tumor and increase in flesh. He was discharged after being in hospital 37 days, physically able to return to his duties as schoolmaster, which case I present to you for examination, stating that I am largely indebted to Dr. Chas. B. Spratt for the report of this interesting case, he having made the diagnosis and confirmed same by diligent research. I am also under obligations to Dr. F. H. Caldwell for valuable suggestions.

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A PLEA FOR CONSERVATISM IN THE TREATMENT OF ABORTION.*

By R. L. PAYNE, M. D.,
Norfolk, Va.

After having been engaged in the practice of my profession for about ten years, and having had under my care many troublesome and sometimes dangerous cases of abortion, I cannot tell you with what pleasure I read the announcement of one of our great teachers that under modern methods no longer must cases of abortion be allowed to drag out a weary length, but resort must at once be had to the safe, easy, certain method of emptying the uterus at one sitting by means of the uterine dilator and curette. I at once adopted the new plan of treatment, and now, after something more than ten years, I have been summing up results and asking myself, is this new plan of treatment safer and better for the woman than the old? Not only have I been watching my own cases, but I have been studying the work of others, and after all I am forced to believe that in the majority of cases the tentative treatment is the best for by far the largest number of cases, and while I believe there is a field for the use of the curette in abortion, I believe it is strictly limited to septic cases and those in which the products of conception having escaped, hemorrhage is kept up by retained placental fragments. What are the great sources of danger in cases of abortion? Unquestionably hemorrhage and septic infection. As to the first I think we are all fairly well agreed that violent, alarming hemorrhage in these cases must be controlled very largely by the vaginal tampon. As to the second source of danger, let us first consider what measures nature has instituted to protect the woman from auto-infection and then we will be in position to consider in detail what treatment had best be adopted. At the risk of being a little irksome let us think for a moment of the circulation of the placenta, composed as it is on the one hand of arteries carrying the maternal blood, and terminating not in capillaries but in great sinuses, and from these sinuses the blood is carried back to the mother, after it has served the purpose in the nutrition of the fœtus, through the maternal veins, and on the other hand of arteries passing from the fœtus terminating in villi, which penetrate the uterine sinuses and, bathed in the maternal blood, imbibe whatever may be necessary to the nutrition of the fœtus and throw off by exosmosis all effete matter, the blood being then returned to the fœtus by the umbilical veins. Let us note then just here that there is no direct intermingling of fœtal and maternal blood, or in other words, no continuity in the vessels of womb and placenta and hence no danger of putrid matter being taken directly into the blood of the mother from a decomposing placental mass. Let us note in the next place that if the placenta be carefully separated it will be found that the fœtal and maternal portions are separated by a distinct tissue, which Leishman describes as the inter-utero placental tissue, and though the curling arteries of the uterus do penetrate this inter-utero placental tissue it has never been demonstrated that the lymphatics pass through this dividing tissue line, and hence it is fair to infer that the absorbent vessels of the uterus are protected to this extent at the placental site from any septic matter which may be found in the uterus. But again, no sooner does the placenta separate in whole or in part from the womb than the mouths of the torn uterine sinuses are plugged by the formation of blood clots, thus effectually closing them as avenues of infection, while last, but by no means least, the placenta is usually situated at the fundus of the uterus and thus nature has provided for drainage of septic fluids away from the placenta site.

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* Read before the North Carolina Medical Society, Charlotte, May, 1898.

But again, let us notice that when the placenta becomes detached, in part or as a whole, there is very nearly always more or less uterine action, and as a rule a portion of the placental mass hangs out of the os, so that the dilatation is maintained and the exit of fluids from the uterus facilitated, and thus the first great principle of antiseptic practice—thorough drainage—is provided, again reducing the danger of infection at the placental site.

And now it remains only to call your attention to the fact that the whole parturient canal is always coated with mucus which reduces absorption by the mucous membrane to a minimum, and to recall to our minds the recent demonstration of bacteriologists that this mucus is loaded with saprophytes exceedingly destructive to all other bacteria, and we can but wonder at the wonderful provision the great Creator has made to protect the woman from all danger of sepsis during the accidents of pregnancy. But I think I hear you say, "this is all very specious argument, but whether or not we accept the argument the fact remains that no matter what provision nature has made to prevent septic infection in cases of abortion, such accidents very frequently occur." True, but a careful study of this class of cases leads me to believe that septicæmia occurring during abortion is the result of the infection of some traumatism produced by meddlesome efforts to accomplish that which nature is as a rule able to bring to pass without either a curette or other serious intervention on our part.

I do not believe there is any man so skilled in the sense of touch as felt through a metallic instrument as to be able to curette the womb without doing more or less violence to endometrium not involved, and thus are created numerous traumatisms ready to suck up any putrid matter which passing downwards seeks exit in the vagina. But, you say, granted that the curette may produce such lesions as you suppose, there is still no danger of infection, for by the operation we scrape away the entire placenta, mop out or wash out the uterus with suitable antiseptics and thus leaving the patient in a thoroughly aseptic condition there can be no further danger. Yes, I admit that is the ideal operation, and if that could always be accomplished all would be well, but remember that this class of cases fall into the hands of all sorts of physicians, with every grade of qualification, and I opine, of the most skilled, to only a very small minority is granted a sense of touch so delicate as to be able to determine absolutely by the impression made through the curette to the operator's fingers, or even to the finger itself, that every portion of the placenta has been removed, and if only a small portion remains, and the mucous lining of the womb is wounded by the curette how much more liable will the woman be to absorb the septic matter as it passes downward to the os than she would be to absorb it at the fundus.

Finally in this connection let us note that in the efforts to scrape away the placenta the inter-placental tissue will also be scraped away, the uterine lymphatics directly exposed at the placental site, and the danger of septic absorption increased manyfold.

In the course of my own experience I have very rarely seen septicæmia occur in cases of abortion even under the worst conditions, where no manual efforts were made to remove the placenta except from the vagina, and I believe that in the vast majority of cases the best interests of the patient will be subserved by tentative treatment. When symptoms of threatened abortion occur the woman should, of course, be at once put to bed and the most absolute quiet of mind and body must be observed. If there is pain the Viburnum Prunifolium must be administered in large and frequently repeated doses. This is one of the best of all drugs to quiet uterine action, but requires to be given in very large doses to produce the desired effect, and as I have written elsewhere, if there be much hemorrhage it is a dangerous remedy, because it is a paralyzant of unstriped muscular fibre and therefore by lessening uterine contraction promotes hemorrhage. If hemorrhage is sufficient to demand attention stop the viburnum and resort to small doses of opium, ipecac and acetate of lead, and if hemorrhage is very free then resort must be had to the tampon of iodoform or other sterile gauze. Before applying the first tampon I never resort to the antiseptic douche, as is so constantly advised, because I do not wish to wash away nature's coating of mucus or destroy her scavengers, the vaginal saprophytes, but if it is necessary to apply other tampons I always douche the vagina with warm (not hot) sterilized water to wash away any decomposing blood clot or other debris which may be lying there. It is rarely necessary to apply more than two tampons. Usually on the removal of the first tampon the products of conception are found lying in the vagina or hanging so loosely in the os that it may be gently drawn away by the finger. Just here a word of warning, and that is, unless the whole conception can be readily removed by the finger do not permit yourself to remove a portion, as in that case the mouth of the uterus will close up, imprisoning the remainder and all uterine action cease. If, however, this is not the case and hemorrhage is still to be feared, reapply the tampon and this may be repeated again and again, but in my experience it is rarely necessary to apply a third tampon; as after the second the hemorrhage is usually so slight as to no longer be a source of alarm. So long as the abortion is not complete the woman must remain in bed and the warm, sterilized douche used twice daily to bring away any foreign matter in the vagina. The os will, as a rule, be slowly dilated and the ovum forced into the vagina. Interfere as little as possible, remembering that even the finger may introduce septic germs, or create slight traumatism of vagina or os uteri that will greedily absorb anything passing over the abraded surface. If the discharge become of very foul odor, or at any moment that septic symptoms supervene, then resort may at once be had to the curette, and under the strictest attention to antiseptic detail the uterus cleared as thoroughly as possible of its contents. Even then let us remember that in the use of the curette we are only choosing between two evils.

In conclusion, permit me to add that I do not wish to be misunderstood. I do not wish to say that the curette is never necessary in treating abortion, but I do wish to say that it is only necessary in exceptional cases, and that it should never be used except by one fully aware of the fact that this little instrument is full of minor and even deadly possibilities. To-day every fellow who can buy a set of uterine curettes stalks about the land armed cap-a-pie, and upon the slightest provocation attacks the womb: The doctor records an operation, but the woman may record the initial date of a ruined life. If the history of the individual life of the medical men of to-day is ever written, blessed will be he who has no surgical sins chargeable to the use of the curette.

PREVENTION AND CONTROL OF YELLOW FEVER EPIDEMICS.*

By H. M. FOLKES, M. D.,
Biloxi, Miss.,
Member of the Mississippi State Board of Health; Coast Sanitary Inspector, etc.

Our duties as public educators are of such wide and varied import that to discuss them in all their phases and ramifications would require more time than is at our disposal; hence I will touch only upon one of the collaterals—that of the *Prevention and Management of Yellow Fever Epidemics.*

From the experience of the past should come the wisdom of the future; upon this predicate I will direct your attention along a line of thought suggested by our epidemic of last summer and fall. This outbreak has become classical, and has clasped between its covers a series of lessons so striking as to forever remain impressed upon the medical mind. Existing for weeks—nay, months—before its nature was suspected, it baffled some of the most experienced diagnosticians that the country possesses before it was recognized as the South's greatest foe. The people have always expected great things from the medical world; and with the above facts staring us in the face, I would feel no little diffidence in approaching the subject matter of our topic were it not that I am impelled by a desire to assist in retrieving the prestige we have so surely lost, and to again uplift our profession to the scientific position from which the people will recognize an excathedra utterance with the deference due to knowledge.

Yellow fever possesses within itself more dread to the South than any other disease. This should not be so, and it will be our duty to demonstrate this fact in a way which cannot be gainsaid. It is a germ disease, and as such is easily and readily destroyed by the use of an acid 1-500 bichloride solution, formaldehyde, sulphur dioxide or steam under pressure at 212 degrees for thirty minutes. The disease requires from one to three weeks to establish itself at a place; or, in other words, to acquire a virulence sufficient to rapidly become disseminated. It should be remembered also that one or two days' sickness in a room does not necessarily infect the room, and that even after the third day the patient can be moved, and the room be comparatively safe. The micrococci are almost entirely taken into the system by the respiratory apparatus; hence, measures looking to disinfection of bodily emanations are indicated, and experience proves their effectiveness. The idea that the infection may be conveyed to a considerable distance by the air is a mistake, as it is extremely doubtful if transmission occurs at more than seventy-five feet.

Yellow fever fomites may be classed as any soft or porous goods, such as clothing, feathers, rotten wood, etc.; as such, they are capable of absolute disinfection. Immunity, while not absolute, is practically so, not over 2 per cent. showing a second attack. Yellow fever is one of the cleanest and most clear cut of clinical diseases. It requires less medicine than almost any malady we treat.

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*Read before the Medical Association of Mississippi, April, 1898.

It is not so fatal as many are led to believe. The mortality in 1878 being under 19 per cent., it has shown a tendency to become less and less fatal during each outbreak since that time—that at Jacksonville being 10 per cent.; that at Brunswick 8 per cent.; that of the epidemic this past summer, about 8 per cent. The trouble is that the people remember those who have died, and fail to make note of the many who recover. Again, different localities may, and frequently do, present such a high rate as to forever impress its memory upon the minds of the people.

A case of yellow fever can be treated in a room in a crowded hotel, and by taking the following sanitary precautions no other guest in the place need become infected: Place over the windows a double thickness of mosquito netting or some such material, kept constantly moist with a 1-500 bichloride solution. Remove the patient's gown and bed clothing twice daily, immediately putting the same in a 1-500 bichloride solution. Have a rubber sheet next to the mattress. Have only the fewest possible things in the room, and these are to be wiped with bichloride solution once daily. Place all dejecta, spittal, etc., from the patient in the same solution. All cups, towels, glasses, etc., are to be treated in like manner. The nurse should stay in the sick room, or else when going out she should take a bichloride bath, if possible, and put on sterilized clothing all over—her shoes included—unless she is simply leaving for a few minutes, in which case she should take the same precautions as the physician.

The physician should always put on a cotton gown wet with the same solution before going in the sick room; this is to be removed when he comes out, and his hands and face should receive a formaldehyde or bichloride bath at once.

On recovery or death of the patient, if the room and its contents are thoroughly disinfected it will positively prevent a spread of the fever.

In the event of death, infection can be prevented by having the burial attendants wear cotton gowns and gloves wet with the bichloride solution. Wrap the body in a sheet wet with the same solution, and then place it in the coffin, which should be securely fastened and under no circumstances reopened. Not more than eight persons should be allowed as active pallbearers to the funeral, which should take place as soon as possible after death—not later than six hours at any time. While it has not been customary, I believe that, having all persons attending the funeral wear gowns and gloves as provided for the funeral attendants, would be an additional safeguard. The people are always willing to learn, and while it will take time to convince them, the day is coming when they will recognize yellow fever as being completely amenable to measures of isolation, as are smallpox, diphtheria, scarlet fever, etc.

Every quarantine station in the country is an object lesson which would attain infinitely more value if every case of fever entering it should be reported. This has been objected to by some on the ground of alarming the people. I hold to the contrary, that if the people knew, and had opportunity to appreciate the absolute security of these hygienic outposts, they would quickly become educated to the necessity of the desired ends in the prevention of and handling of yellow fever. By all means let us have reports from all the Stations.

All these measures are absolutely valueless, unless we can impress upon the minds of the people the fact that "honesty is the best policy."

The above means all look to the prevention of the dissemination of the disease. We will now direct attention to its *management should it become epidemic.*

While a strong advocate of States rights in health affairs, I must confess to a fascination with the idea of Federal handling of epidemics for the following reasons: They have the power of securing uniformity in rules and regulations, the authority in interstate questions, the likelihood of its officers not being swayed by local influences—though this has certain drawbacks—and finally, what to my mind most recommends it, is the opportunity to organize a company of immunes, properly officered, equipped and drilled, to act as a cordon around infected points. This company should be stationed constantly at some southern place and should be prepared to march at an hour's notice. Such an organization should be ordered to an infected point, placed on duty at once, and could lend invaluable aid in checking the spread of the disease. They should be instructed in all sanitary matters; and those not under arms as guards, could be of service as sanitary inspectors, nurses, etc., in the afflicted place. Not a wheel should turn in the town, not a person go in or out, until this force has arrived by special train.

The cordon once placed, then begins the erection of detention camps and granting pratiques to clean immunes. This question of deciding who are immunes is one of the most important with which we have to contend—carrying with it a grave responsibility on the part of the health official who issues such certificates, as he thereby certifies to the fact of immunity, and in doing so he should be absolutely certain as to the correctness of the diagnosis in a given case. It is far better to err on the side of safety and refuse such pratiques, unless indubitable evidence is presented. This should consist of a certificate from the attending physician, endorsed as correct by one or two health officers who have seen the case with him. These certificates, being of the utmost importance, should be issued at the time of illness; and carefully preserved by the patient for future use.

The details of detention camps and their management is of sufficient importance to deserve a special paper; hence, I will only refer to them as being one of the most useful adjuncts we have in the management of epidemics. Uniformity of rules and regulations is so essential to an intelligent handling of an epidemic, that it seems hardly necessary to refer to the fact; yet in our own State the recent law is so modified as to almost entirely subordinate the authority of the State Board of Health to any little town who may decline to receive persons absolutely non-dangerous. The proper intent of a law based upon modern sanitary and commercial requirements, is to afford protection and enable business to proceed. Unfortunately, our law largely nullifies the good accomplished at the recent Quarantine Conferences in New Orleans and Atlanta, where were adopted a series of Rules and Regulations positively accomplishing the two requirements above mentioned, safety and continued commerce. Our future laws should be based upon the lines laid down by the above mentioned conventions.

State control of health matters is superior to that of Federal by reason of its being fundamentally constitutional, on account of its officials being of the people and acquainted with their local peculiarities and requirements, of their rather better knowledge of the local surroundings, of their being more subordinate to those from whom they derive their authority, the people, and not having the halo of authority from the Government shining around them.

THE HYGIENE OF THE SKIN IN HEALTH AND DISEASE.*

By J. C. WOODRUFF, M. D.,
Charleston, S. C.

Although the skin, like every human tissue, possesses a definite chemical and morphological constitution, yet certain minute structural and vital differences exist between the cutaneous envelopes of different individuals. Just as in the same person the skin is thicker in certain regions than in others, so a certain difference in the thickness of the skins of different persons. But this is perhaps the least difference of texture to which it is liable. A much more important distinction relates to the sensibility of its nervous elements and the activity of its circulation. These variations, especially under the influence of favorable circumstances, are perpetuated or it may be heightened in transmission from parent to offspring. One of the functions of the integument, by virtue of a special modification of the termination of sensory nerves distributed to its surface, is to put us in relation with the external world through the sense of touch. It is reasonable to suppose that the acuteness of tactile sensibility exhibits a material variation in same manner as senses of sight and hearing differ in different persons. The sense of touch, like other fucial senses, bears a relation likewise to the general development of the nervous system both central and peripheral.

The highest intellectual activity, the most exquisite sensibility of ear, of eye, of touch, and of muscular adaptation, must combine to render possible the works of Mozart, Beethoven or Mendelsohn, of a Raphael, Titian or Michael Angelo.

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*Read before the South Carolina Medical Association at Harris Springs, S. C., in April, 1898.

How highly the sense of touch may be cultivated in the blind, we see, who receives a partial compensation for the loss of sight by the acuteness of hearing or touch. A comparatively thin epithelial covering permits us to observe "as in a glass darkly," varying constitutional conditions—the bloom of health, the pallor of consumption, the ashen hue of the confirmed dyspeptic, the sallow tinge of the unfortunate victim of malignant disease, etc. The vaso motor nerves which govern the caliber of the skin and capacity of the vessels respond quickly in some constitutions to stimuli, either external or internal; while in those of more stolid disposition they are far less easily excited.

On the face of a gently nurtured girl, the experienced eye may detect the trace of every powerful emotion, while one may look in vain upon the cheek of the youthful inmate of a house of refuge for the blush of shame.

The capillaries of the skin are brought into such close proximity to the atmosphere that interchange of gases takes place. Carbonic acid is given off and oxygen absorbed. The quantity of carbon exhaled has been estimated by Scharling at one-fifth, and by Regnault at one-hundredth, that expired by the lungs—the latter calculation being nearer the truth. The perspiratory tubules begin in a convolution and pursue a spiral course. They thus resemble tubules of kidney, and perform an analogous function. Sir Erasmus Wilson calculated that the number of square inches of surface in a man of ordinary height and weight is 2,500; the number of perspiratory tubes 1,750,000—that is, 145,833 feet or 48,600 yards, or nearly twenty-eight miles. This enormous extent, you see, allows elimination from the blood. The perspiration holds in solution about 1 per cent. solid material, consisting of inorganic and organic compounds, the most of the latter being urea; so the lungs, kidneys and skin are to a certain extent complementary to each other. Moreover, the perspiration is not only an excretory fluid which eliminates impurities from the body, but cools it, reduces the temperature and regulates bodily heat.

This cutaneous respiration and transpiration which are incessantly carried on play an important part, more or less, in the purity of the blood. In health, we are too apt to overlook this truth, but its value is too apparent in certain pathological states; as in Uremia we invoke the use of the skin to take the place of the disabled kidneys, or in lead poisoning, jaundice and many other diseases.

If the circulating fluid contain toxic agents, be they engendered within or without, the organism of the skin performs a share of the work of elimination, and in the execution of this work it is very apt to become strained or injured, so to speak; so this injury is shown in some inflammatory disease of the skin. Again, if the skin is impaired in its function, why, the whole work is thrown upon the internal organs of excretion of substances unfit for accumulation and tend to harmful and often fatal disease. The internal organism and the skin which envelopes it are continually acting and reacting upon each other. The sebaceous material also probably subserves to a less degree the purpose of selecting waste products from the blood, besides its more obvious use as an unguent. (That is, a material for lubrication of the integument). If the functions of the sebaceous glands are impaired or improperly performed, the result is a suppression, or the skin is left dry and scaly, or the quality of serum is altered so entirely that the skin is covered with greasy liquid or dingy scales. The morbid process is so great that it may lead to the loss of the hair. The hair also assumes a faded hue, and loses its curl when it suffers for proper nourishment.

The health of the skin is due to an adequate supply of rich and healthy blood. The second consideration involves attention to many habits of life, such as clothing cleanliness and exercise. No fault of nutrition; no careless bodily habit, I might almost say no evil moral trait, can be wholly enjoyed regardless of the skin. Now, in order to keep the integument in a normal healthy condition, it is absolutely necessary to keep it clean, and cold baths in summer and warm baths in winter should be taken as often as once a day at least, to keep the skin clear of all excretory matter and dust that may accumulate during work or usual exercise, for very few persons are careful enough about keeping the skin in a normal state. If you wish to have a nice, healthy, white skin, and free of pimples, keep the system in good condition; be regular in your meals, be temperate in drinking wines and also smoking.

And now, a word to the ladies. No one class of people in this wide world suffer with dyspepsia more than our ladies, both married and single. Nine out of ten suffer with fearful headaches, and they, of course, have rough, tawny complexions, no color in the cheeks—and why so? In the first place, how many pay any attention to the general system being in good normal condition; to food they eat; at what time they eat; to mode of tight lacing dresses they wear, pulling in the body in the most fearful manner to give them a pretty, neat figure. Why, all the internal organs are pressed into abnormal positions. The lungs pushed upwards and circumscribed in the space to be filled with oxygen. The liver and digestive pouch or stomach is pressed downward, even to the detriment of the organs below. And yet, you hear ladies every day saying: "I do not see why women suffer so with indigestion, headaches, etc." The cause is very obvious to us medical men. I can see why the complexion is bound to suffer from these causes. Accordingly, a complete treatise upon the care of this tissue demands a study of physiology and of the habits of civilized life. The beauty of the skin depends upon the activity of the circulation and the shades of pigment distributed in its rete mucosa (the membranes between the cuticle and cutis contain the coloring matter; not exactly mucous membrane or cellular tissue), the department of its epithelial covering and, of course, its cleanliness. The pigmentation varies in each person according to the color, eyes, hair. Climate, of course, has something to do with the complexion, since we find that in Northern climates people are generally blondes, and in Southern climates brunettes. Yet, in Europe and other foreign countries, where considerable mixture of races has occurred, we find numerous exceptions to the rule. A dark-eyed blonde is often a piquant beauty. The skins of blondes are more liable to diseases of the skin, rashes, eruptions, etc., mostly caused by mal-assimilation of food. Disturbances of the bowels are often the causes, as well as the stomach, of various forms of rashes, herpes, eczema, seborrhoea, witicaria. Among those unfortunate children who inherit scrofula or sypbilis the participation of the skin in these various dermatoses is very apparent. In scrofulous persons the hair has a dingy, lusterless appearance; acquired syphilis sets its characteristic scales upon the integument so that "one who runs may read." The hair being no longer supplied with wholesome aliment, more or less, Alopecia (baldness) ensues, and frequently disease at root of the nails. A number of cutaneous diseases result from Rheumatic or Gouty Diathesis. The perverted metabolism which lies at the foundation, particularly of the latter affection, proving a prolific source of modifications of sensibility, as well as of gross pathological changes. Pigmentary alteration may be due to these causes. The intimate relation between the skin and mucous membrane is exemplified in scarlatina, in which pharyngetis is as characteristic as erythema, and in which also during and immediately after the eruptive period gastritis occurs, with thickening, grayish exudation and blood extravsation from softened and ruptured vessels. Indeed, it is a fact that nearly every variety of idiopathic fever is known by its specific form of eruption. A harsh, dry, dirty aspect of the skin often indicates the imperfect digestion of fatty foods, and same causes may lead to witicaria, eczema, erythema, nodosum. Sudden distressing flushings of the face and breast are often found in victims of dyspepsia, especially in women at the climacteric period. Withicaria may accompany jaundice, ague or disordered menstruation. Jaundice gives rise to lichin, and sometimes to boils and carbuncles. The connective tissue neoplasm, termed xanthoma or viliigoidea, is very often associated with disturbance of the functions of the liver and with migraine. Graves describes a case of acute rheumatism followed by hepatitis with jaundice, and this by withicaria. The borizing which takes place in Addison's disease is a remarkable example of the effect exerted 'upon the cutaneous envelope by a general disease which involves the composition of the blood.

Whatever depresses the skin's health is liable to alter that of the hair and nails, which are modifications of the cuticle. Anxiety may be the indirect cause of skin disease by depressing the general nervous vitality, by inducing capricious activity of the sympathetic or vaso motor system, and by nervous dyspepsia which it produces. Chambers relates a case of cutaneous anaesthesia in a gentleman which came on after failure in business. The symptoms simulated ataxia, since from the impairment of the sense of touch the patient experienced difficulty in adjusting his buttons, and would trip over objects in his path. Under appropriate treatment addressed to his digestion he recovered entirely. Another direct and local effect of anxiety upon the skin is the production of premature wrinkles. Lanoline will often remove wrinkles. The health of the skin is best maintained by a mixed diet. So it is that a treatise upon the health and care of the skin requires a careful consideration of the subject of food, and its preparation, since it is well known the different modes of preparing alimentary substances affect the readiness of their assimilation. Some knowledge of cookery is of great use to the Dermatologist, as well as the general practitioner, and an occasional reference to the writings of Soyer and Brillat-Savarin would not be wholly profitless. Affections of the stomach need a nicely selected diet, and if, as is often the case, such an affection leads to disease of the skin, our success in the latter depends on exactly how we treat the cause; a number of substances well borne, but cause reflex action and increase the dermal trouble.

I have treated skin diseases for the past twelve years specially. I have no trouble in making a cure, provided patients carry out treatment; but I find that patients stop treatment just as soon as relieved, or get tired if they do not improve rapidly, throw aside all medicines and try any remedies they hear of or suggested by any friend, and so it is very unsatisfactory to handle these cases unless you get co-operation. The greatest obstacle I find is the uncleanly and careless ways of keeping skin clean and washing off the parts as often as needed.

I will be glad to hear from some present on skin diseases. I often find dermal diseases much increased from some abnormal condition of kidneys, and I do believe that many are caused from diseases of the kidneys as well as from the emmetories being out of gear, and I think it well for us always to look to these signs, and treat them if necessary as well as the derma.

* * *

Celluloid Bandages.—Celluloid has been suggested as a substitute for plaster of Paris, its weight being less than one-fourth that of the former. It is readily cleaned, has a smooth surface, and is impervious to urine and discharges. Cut into small pieces, celluloid is dissolved in acetone. This solution is rubbed into each layer of gauze bandage or jacket, a kid glove being worn to avoid the celluloid drying on the skin. Ten layers are necessary. Three or four hours are required for drying. Small holes may be punctured for ventilation.

Georgia Journal of Medicine and Surgery.

EDITED BY

St. J. B. GRAHAM, M. D. W. E. FITCH, M. D.

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PHOTO-ENGRAVINGS to illustrate accepted articles wil be made free of charge, if proper drawings or negatives accompany the manuscript. Electrotypes of such cuts furnished at cost.

PHYSICIANS' WANTS, ETC.—A department will be devoted to the free publication of subscribers' wants, practices for sale, change of location, etc.

SECRETARIES OF MEDICAL SOCIETIES will do us a favor by keeping us informed of dates of meetings of same, etc.

SUPPURATING WOUNDS.

In the care and treatment of suppurating wounds and surfaces many physicians do not deem it necessary to be careful in their aseptic or antiseptic technic, beyond that of trying to limit suppuration already existing in the infected area and restore it to its normal condition. They reason from the standpoint that infection is already present and asepsis unnecessary. It is a mistaken conclusion, and one therefore should be just as careful of asepsis in the handling of an infected focus as in the treatment and care of a non-infected area. Where pus is present we grant infection by one or more of the several pus-producing organisms, but how often do we see badly treated areas such as these attacked by a new form of infection, such as erysipelas, tetanus, or some other septic process differing in character, degree and extent from the original process. It should be borne well in mind that if aseptic precautions, and strict ones at that, are not used even with septic cases, that the physician himself may infect the wound with a new and more fatal form of organism than the original one. How often is it said that the patient's wound was doing nicely, but erysipelas, tetanus, or some other infectious complication has "set in," and how often it is the fact that he who was called upon to prevent just such complication is the one who "set it in." It takes a little more time, skill and knowledge to be thorough in asepsis in all cases, and it trains one to naturally fall into aseptic methods without lapses, whereas, if carelessness is allowed in some cases, soon the same methods will follow in all and one will wonder why and how pus got in.

The most rampant disbeliever in the fact (not theory) of the production of infection by micro-organisms cannot say that asepsis ever did harm to any one. Every day experience shows the vast good it is capable of doing, and the weight of evidence is vastly in its favor.

EDITOR'S TABLE.

The Winyah Sanitarium, located in Asheville, N. C., "The Land of the Sky." This is a private institution for the Climatic, Hygienic, Dietitic and Bacterio-Therapeutic Treatment of Tuberculosis, under the management and supervision of Karl von Ruck, B. S., M. D. We extract from the *Alabama Med. Surg. Age* a description of "The Land of the Sky." Asheville is situated in the crest of the Blue Ridge Mountains, 2,500 feet above the sea level. It is a city of hills, situated in one of the most healthful and beautiful sections to be found on the continent. Its equable temperature makes it the Mecca of pilgrims in search of health. Its elevation may be called an ideal one for health, for at its altitude the pressure is 12¾ pounds to the square inch, which is the blood pressure at any altitude. The elevation when the blood pressure and air pressure are equal, here the vitals of the body are carried on with the least possible friction and waste. The air is pure and invigorating, like the first gentle breath of spring. To breathe long, deep draughts of it makes you walk with a lighter step and feel like you are young again. Here the sun loves to shine; its rays, tempered by the mountain breeze, full upon you as soft and cool as moonbeams. Truly it is the land of cloudless sky.

The view from the eminence of Battery Park Hotel is one never to be forgotten. Visions of marvelous beauty smile upon you like revelations from the Paradise of God. The eternal hills are piled up about you like frozen waves of a stormy sea. Ridge after ridge, peak after peak lift up their tall heads in mighty strength before you, till you fancy that you gaze upon the colossal domes, minarets and towers of some old ruined, half-buried city. Above you stretches the azure dome of a cloudless sky; below you rolls in quiet grandeur the historic French Broad, winding in graceful curves down the valley and shimmering under the sunlight like a thread of silver with which God has sewed together the green garments that clothe the everlasting hills. Below you, nestling in their stony cradles, lie fertile valleys, with their fields of ripening grain. Before you lie sunny slopes and shady glens, pastural hills and silvery streams, all blended and woven into a perfect harmony of beauty. The curling smoke of shop and factory darken the heavens and ascend on high like incense offered to the god of industry. In the dim distance loom up old Somky's heights, range on range, higher and higher, forming, as it were, some broad, majestic stairway leading to the very gates of pearl. Down this bright way, in your imagination, you could see the angels and hear the tread of their slippered feet as they hastened to bring God's messages of love to the world.

⁂

The Philadelphia Medical Publishing Company, owners and publishers of the *Philadelphia Medical Journal,* for the purpose of stimulating research and elevating the standard of excellence in scientific medical literature, generously offers five first prizes of $200.00 each for the best, and five second prizes of $50.00 each for the next best monographs upon subjects in the following general departments:

1. *Medicine*—including Internal Medicine, Neurology, Psychiatry, Pediatrics, etc.
2. *Surgery*—including General Surgery, Genito-urinary Diseases, Surgical Orthopedics, etc.
3. *Gynecology* and *Obstetrics.*
4. *Pathology*—including Bacteriology, Hygiene, etc.
5. *Specialties*—including Opthalmology, Otology, Laryngology, Rhinology, Dermatology, etc.

The general rules governing the competition and awards are as follows:

1. Manuscripts, type-written and in the English language, must be received on or before January 1, 1899, each to be signed by a *nom de plume,* and accompanied by a sealed envelope bearing the *nom de plume,* and containing the author's name and address. The department in which the essay is entered for competition must be indicated by the author. The prizes will be awarded to those represented by the assumed names before the corresponding envelopes are opened. Notice of the awards will be published in the *Journal* during January, 1899. Monographs winning neither the first nor the second prize will, if desired, be returned to the addresses to be given, without breaking the seals of the envelopes containing the authors' names.

2. While it is not stipulated that the papers shall be a record of hitherto unpublished and original research, experimentation, or discovery, such papers thus characterized are naturally preferred. Certain subjects, however, do not readily lend themselves well to experimental investigation or to hope of discovery, and this fact will be borne in mind by the judges, who are well aware that purely literary work may give evidence of as great intelligence, originality and industry, and be of as much benefit to the profession, as discovery reached by experiment and laboratory research.

3. The decisions and award of prizes will be in charge of the Editorial Committee of the *Philadelphia Medical Journal,* composed of Drs. William Pepper, W. W. Keen and Thomas S. K. Morton, or to sub-committees appointed by the Editorial Committee.

4. The essays winning prizes shall be copyrighted by the Phila-

delphia Medical Publishing Company, shall be its property, and may be published either in the *Philadelphia Medical Journal*, or in book form, or in both ways, in the discretion of the company.

5. It is preferred that essays shall not exceed 25,000 words in length. Should, however, an essay exceed this number of words, or require unusually expensive illustrations or tables, the division of the costs and the methods of publication shall be decided by agreement between the company and the author.

6. If, in the opinion of the judges, none of the essays attains the standard of excellence required to make it worthy of a prize, none will be awarded.

If desired, further details will be given concerning anything not made clear by this announcement.

⁂

Through its committee the College of Physicians of Philadelphia announces that the sum of five hundred dollars will be awarded to the author of the best essay in competition for the first Nathan Lewis Hatfield prize for original research in medicine. Dr. J. C. Wilson is the chairman of the committee. The subject selected is: "A Pathological and Clinical Study of the Thymus Gland and its Relations." Essays must be submitted on or before January 1, 1900. Each essay must be typewritten, designated by a motto or device and accompanied by a sealed envelope bearing the same motto or device and containing the name and address of the author. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers or their agents within one year. The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize. The treatment of the subject must, in accordance with the conditions of the Trust, embody original observations or researches or original deductions. The competition shall be open to members of the medical profession and men of science in the United States. The original of the successful essay shall become the property of the College of Physicians. The Trustees shall have full control of the publication of the memorial essay. It shall be published in the *Transactions* of the College and also when expedient as a separate issue.

⁂

The well-known and enterprising firm of McKesson & Robbins have recently issued a monograph on Guaiaquin, a valuable new product of their laboratory. Most of our readers are, perhaps, familiar with this new preparation. To those who are not we will say that it possesses the properties of both guaiacol and quinine besides those peculiar to itself as a combination of the two. Guaiaquin is a "new quinine" with disinfectant properties and has a wide field of usefulness.

This little book will be found interesting and instructive to the general practitioner, especially those in the country and who have not the means to purchase the latest works. Some beautiful colored plates are given, showing the styles of development and species of malarial parasites, besides several uncolored plates showing microscopical appearance of the blood. There is much of interest in the text.

Messrs. McKesson & Robbins have spared no expense to make the book of interest and they will send one copy to all physicians who ask for it. Send for a copy.

⁂

We are in receipt of a handsomely bound monograph on **Carabana** water. On page 2 is found the analysis made by the academies of medicine of Madrid and Paris, giving totals ot anhydrous and hydrated salts; pages 4 to 30 begins with dosage and therapeutical advantages and general indications for its use. We constantly prescribe **Carabana** in different conditions of the digestive tract, especially in the catarrhal. It is valuable on account of the small dose required and its quick results; for this reason it ought to be largely used before and after gynæcological operations and after delivery in obstetric cases. We use it more frequently than any other purgative water.

⁂

See page xvii. for announcement of the Medical College of Augusta, at Augusta, Ga. The Sixty-seventh Annual Session of this Institution begins October 1st, '98.

This College offers students advantages in Clinical instructions superior to those of any Medical College in this section. All the medical charities of Augusta (a city of sixty thousand inhabitants) are under the exclusive management of the Faculty. These are: The City Hospital for whites, the Lamar Hospital for negroes, the Policlinic, the Outdoor Obstetric Service, the City Dispensary. No other Medical College in Georgia has exclusive control of all the medical charities of the city in which it is located. The City Hospital, the Policlinic and City Dispensary are located on the lot adjoining the College.

Physicians having sons or students to send to College would do well to confer with the Dean. Write him.

⁂

The Sixty-fifth Session of the Medical Department of the Tulane University of Louisiana will begin October 20th, 1898. See their announcement on page xvi. The facilities of this institution for genuine clinical instruction in the diseases of the South-west are unsurpassed by any institution in the South.

⁂

Physicians and pharmacists, like the masses of the people, have tired of the arrogation of superiority implied by the announcements of foreign manufacture and are revolting against them. This spirit is especially commendable at the present time when a vast wave of patriotism is rolling over the land, making the North and the South, the East and the West as one band of brothers by its magic influence. The Antikamnia Chemical Company, of St. Louis, in all ot its advertising matter, whether through the journals or by circular, takes particular pains to impress upon physicians and pharmacists that its goods are made in America, by Americans and for American use. This enterprising company realizes that the words "made in Germany," or "made in France" no longer possess the influence and meaning they once had. The people of this country no longer scorn or underate the products of their own native laboratories and workshops.—*The National Druggist.*

⁂

We are encouraged to make greater efforts to upbuild Southern medical journalism since receiving so many flattering letters, subscriptions, cheques, etc., and especially the opinions of so many doctors, such as we record below. In sending in his subscription to GEORGIA JOURNAL OF MEDICINE AND SURGERY a professor in one of our Southern Medical Colleges writes as follows: "Your journal is the most practical, up-to-date journal I receive. I read with profit every original article in the June issue. You are to be congratulated in establishing such a worthy journal and bringing it to such a standard of excellence. Find enclosed my check for two years' subscription."

"The June number of the GEORGIA JOURNAL OF MEDICINE AND SURGERY is just at hand. It has genuine food in it (I do not mean Imperial Granum) for the brain of the general practitioner. I get more than $2.00 worth out of this issue. Enter my name for one year. I hope it will live for one hundred years and grow better each issue."

"I am greatly pleased with the June issue of GEORGIA JOURNAL OF MEDICINE AND SURGERY. I send herewith P. O. M. O. for $2.00 for my subscription year. How can you afford to give such a good journal for $2.00 per year?"

From a Florida doctor. We quote his words: "It is the best, most practical journal published in the South. I read it from cover to cover with much benefit."

⁂

Some months ago we sent out *bills* for subscriptions *due* and *past* due. It costs money to publish medical journals and we have to pay the printers. The $2.00 you owe us would help the cause along. Oblige us by making an early remittance.

BOOK REVIEWS.

Modern Gynæcology—a Treatise on Diseases of Women. By Charles H. Bushong, M. D., Assistant Gynæcologist to the Demilt Dispensary, formerly Attending Physician to the Northern Dispensary, New York City. In one 8vo. vol. Illustrated by 105 engravings; 406 pages, cloth; $2 00. E. B. Treat & Co., 241 and 243 W. 23d St., N. Y.

Dr. Bushing should be congratulated for so successfully contributing a *useful* volume to the profession on this subject. Most of our gynæcological works are written from the standpoint of specialists and often overshadowed by bold and brilliant surgical results. This book is intended for the general practitioner and is quite opportune, as it points attention to a vast number of ailments that are apt to be overlooked in the more voluminous works on this subject. The author discusses only the medical side of the treatment of woman's diseases, does not describe a single operation, nor the technique of asepsis, and is only intended for the use of the general practitioner.

Chapter I gives directions for examinations—oral, digital, bimanual and instrumental—the uses of the speculum, the positions, etc. Chapters III to VIII cover menstruation, amenorrhœa, menorrhagia and metorrhagia, diseases of the external genitals and urethra. Chapters VIII to XI cover the diseases of the vagina, the cervix and metritis. Chapter XI, on displacements, is very explicit, clearly illustrated, giving directions for the adjustment of pessaries, the use of tampons for restoring malpositions, etc. The remaining five chapters cover very thoroughly the ovaries, diseases of fibroids, the drug treatment of the female genitalia, malignant diseases of, hygiene, and bicycle riding, sterility, etc.

This is a book that every young practitioner should buy and read. The author places before his readers in a clear, common sense manner the symptoms of the various diseases of the female sexual organs, and indicates in detail the methods of treatment that can be applied by and general practitioner.

The book is printed on good paper, type clean and clear, and well bound.

International Clinics: A Quarterly of Clinical Lectures, etc., etc., Edited by Judson Baland, M. D., Philadelphia; J. Mitchell Bruce, M. D., F. R. C. P. of London, and David W. Finlay, M. D., F. R. C. P., Aberdeen, Scotland. Volume I., Series viii, 1898. Philadelphia: J. B. Lippincott Co., 1898.

We presume that all our readers are familiar with this series of lectures, for they have acquired an enviable reputation, not alone in America, but in Europe as well, where the high standard and "up-to-date" volumes of this series are eagerly looked forward to as illustrating the advanced thought of our profession for each quarter. The contributors to the volume now before us while largely American and British teachers of repute, include many continental authorities, for instance: Jaccoud of Paris, Hayem also of Paris, von Leyden of Berlin, Pinard of Paris, and others, while our own State is well represented by Dr. Hutchins of Atlanta, and Dr. Todd of Atlanta.

Dr. Hutchins' paper is a remarkably interesting one, on "a case of Epithelioma Recurrens," and exhibits an amount of hard study and pathological knowledge that does great credit to the author and the college in which he holds the chair of dermatology.

Dr. Todd's paper being recollections from a series of lectures on

"Opium" is an entertaining and bright paper which shows, also, that the students of the Atlanta Medical College get very good and safe instructions in therapeutics.

Taking the volume as a whole, the editors have achieved what would seem a most difficult task—they have kept the standard of the lectures up to the high plane of the preceding volumes and, with their enterprising publishers, have put the medical profession under a debt of gratitude which they can only repay by purchasing a complete set every year.

To illustrate the feeling of the general practitioner, we cannot do better than mention a little incident occurring to the writer of this review. A few days ago a very intelligent and observing physician from the country calling upon him saw several volumes of the "International Clinics" lying upon a table picked up the volume now under review, saying: "To read a set of these books and carefully study them I consider as good as a six-weeks' general post graduate course. I have tried both and shall stick to the 'Clinics.'"

That was high praise, was it not?

Atlas of Legal Medicine, by Dr. E. von Hofman. Authorized Translation from the German. Edited by Frederick Peterson, M. D., assisted by Aloysius O. J. Kelly, M. D. 56 colored plates and 193 illustrations in black. Price, $3.50 net. Published by W. B. Saunders, Philadelphia.

This work treats in a condensed form the wide field of legal medicine. The many plates, both colored and uncolored, which are certainly triumphs of the lithographer's art, make vivid impressions upon the mind and are, therefore, more easily remembered and recalled than any voluminous text could possibly be.

The descriptions accompanying the plates enter tersely and practically into the medico-legal aspects of the subject.

This Atlas surpasses our expectations and we predict for it in the United States the same success and popularity that it has already met with in Europe.

Atlas and Abstract of the Diseases of the Larynx, by Dr. L. Grunwald. Authorized Translation from the German. Edited by Chas. P. Grayson, M. D. 107 colored figures on 44 plates. Price, $2.50 net. Published by W. B. Saunders, Philadelphia.

The introductory remarks are upon the anatomy and physiology of the larynx and the methods of examination in which some new ideas are given and older ones more thoroughly insisted upon. Pathology and treatment occupies the succeeding pages. Then comes the series of remarkably life-like colored plates with descriptions which bristle with the salient and most valuable features of diagnosis.

These books are indispensible to those unable to keep up their knowledge and experience for lack of clinical material. This is the purpose they are meant to serve and they will do it well.

◆

PROGRESS
—OF—
MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF
W. Z. HOLLIDAY, M. D.,
Instructor in Materia Medica, Medical College of Augusta, Augusta, Ga.
RALSTON L. LATTIMORE, M. D.,
Savannah, Ga.

Eggs in Therapeutics.—A mustard plaster made with the white of an egg will not leave a blister.

A raw egg taken immediately will carry down a fish bone that cannot be gotten up from the throat.

The white skin that lines the shell of an egg is a useful application for a boil.

White of egg beaten with loaf sugar and lemon relieves hoarseness—a teaspoonful taken once every hour.

An egg added to the morning cup of coffee makes a good tonic.

A raw egg, with the yolk unbroken, taken in a glass of wine is beneficial for convalescents.

An Effervescing Quinine Mixture.—It is stated in the *Journal de Médecine de Paris* of March 8, 1896, that the following mixture is of advantage in irritable stomach when quinine is to be given:

℞ Sulphate of quinine, 2 grains;
Citric acid, 6 grains;
Simple syrup,
Syrup of orange flowers, of each, ½ drachm.

This is to be placed in a wineglass containing bicarbonate of sodium (from three to five grains) in saturated solution, and drunk during effervesence.

The Use of Rectal Injections of Salt Water in Place of Injections of Artificial Serum into the Veins.—The *Journal de Médecine de Paris* tells us that Pauchet has used salt water in the proportion of 8 per 1000 in hemorrhages after surgical operations and in parturition by means of rectal injections, with very good results.

It is well-known, of course, that these injections can be given intravenously in case of great hemorrhage accompanied by shock, and that they frequently do a great deal of good. So, too, subcutaneous injections of artificial serum are often exceedingly valuable. Pauchet claims, however, that the use of saline solution by the bowel is followed by good results and has none of the disadvantages of either intravenous or hypodermic injection. The patient receives a rectal injection of a pint of hot salt solution, and this may be repeated if the collapse is great or the hemorrhage has been great, two or three times in the course of a day. He has known of cases where as much as three quarts have been absorbed in the course of twenty-four hours. Should the bowel become intolerant then other methods have to be resorted to, but Pauchet asserts that the pulse improves, the urine becomes abundant, the mouth becomes moist and that this treatment also seems to diminish the vomiting following the use of an anesthetic. A similar recommendation to that of Pauchet is made by Fieux in regard to post partum hemorrhage, he also claiming that such injections are exceedingly valuable method of treatment.

THE USE OF METHYLENE BLUE IN THE TREATMENT OF DIABETES MELLITUS.—Our attention is called to this matter by *La Médicine Moderne* of January 2, 1898. A man of 53 years, suffering from headache and general malaise and other evidences of diabetes mellitus, including glycosuria and albuminuria, received five to eight grains of methylene blue, and under these circumstances the albumen materially diminished and the sugar markedly decreased in quantity. The quantity of urine was also decreased. In a second case the results were equally satisfactory. In this instance four pills of methylene blue to the amount of two grains each were administered each day with marked benefit. One advantage of this treatment is that it tends to relieve any neuralgic pains from which the patient may be suffering.

A CASE OF SUBGLOTIC STENOSIS FROM SYPHILITIC GUMMA.—In weighing the relative merits of tracheotomy and intubation in these cases, Dr. Damieno (*Archiv. Ital. di Laryng.*, No. 3, 1897,) offers the following deductions:

1. Except in rare instances, intubation should always be preferred to tracheotomy in all cases of acute stenoses, and especially in children of all ages.
2. Intubation may be substituted for tracheotomy in acute and chronic stenoses of adults, especially when it does not refer to an incurable affection. It is only necessary that the passage of the tube may be effected, and that it will remain in position with a reasonable amount of certainty.
3. Intubation is the best method of permitting the removal of the cannula in tracheotomized patients, after the passage has been enlarged by the ordinary catheters or the sounds of Schrötter.—*The Laryngoscope*, vol. 4, No. 4.

THE DOSAGE OF CALOMEL FOR AN INFANT.—For an infant of six months, 1 grain; six months to one year, 2 grains; one year to eighteen months, 2 to 3 grains; eighteen months to two years, 4 grains; two years to five years, 4 to 8 grains.—*Journal de Médecine de Paris*, March 8, 1896.

In blepharitis, Dr. Fage says free the lids from crusts with a warm solution of boric acid or icthyol, then apply picric acid in solution of from five to ten parts to the thousand; repeat every second day.

NOTES ON THE THERAPEUTIC USES OF THE SUPRARENAL GLAND.—At a stated meeting of the New York County Medical Association, May 16th, Dr. W. H. Bates, speaking of the uses of the extract of the suprarenal gland, said that he had been using an aqueous extract of the suprarenal gland for the past four years in the diseases of the eye, ear, nose and throat, and with very satisfactory results, but as he did not have the opportunity of employing it in general diseases extensively, he presented the subject to his fellow practitioners. It was essential to remember that the active principle of the gland was incompatible with preservatives, and was destroyed by heat; consequently it must be prepared freshly each time. This could easily be done by mixing ten grains of the dried gland with two ounces of water, and filtering. It was the most powerful astringent known. When a drop of a one-per-cent. solution was instilled into the eye, the conjunctiva and lid were blanched in forty seconds. This observation had been first made by him. The extract had no anæsthetic or antiseptic properties. It would whiten the granulations found in many cases of chronic suppurative otitis. If the use of the suprarenal extract improved the hearing in a doubtful case of deafness, it was evident that the condition was of inflammatory origin. It lessened the congestion of an inflamed eye sufficiently to admit of cocaine anæsthesia. As the extract and cocaine were incompatible, they should be used alternately. In strictures of the nasal duct, it would sometimes be found that instillation of the extract into the punctum exerted such a marked astringent action as to lessen the swelling of the parts and open up the passage. Other observers had found the suprarenal extract a tonic of the heart muscle, and capable of increasing decidedly the number of red blood corpuscles. Its action on the heart was much more powerful than that of digitalis or ergot. It had also been used in the unusually severe and inveterate forms of trachoma met with in the City Hospital, and had acted admirably. The best method of administering this remedy was to place a few drops of the aqueous extract on the tongue.

Dr. Jacob S. Peterson said that he had found the suprarenal extract an excellent heart tonic. Great care should be exercised in using it hypodermically, as the injections were liable to give rise to abscesses. In cases of heart disease in which he had employed it subcutaneously, he had found that the flabby heart had been toned up and an attack of anigma pectoris quickly dissipated.

SEDATIVE EFFECT OF TOBACCO SMOKE IN ACUTE OTITIS MEDIA—I have seen the following simple device, always give convenient, grateful relief: A piece of cotton is placed lightly in the mouth of the canal. A pipe is filled with tobacco and lighted. Then a piece of clean cloth is placed over the mouth of the pipe bowl and gently blown through, while the lip piece of the warm stem rests against the cotton pledget. This filters the warm smoke through the cotton into the canal, and a grateful sedative effect is soon obtained. I do not remember having seen this remedy mentioned in the books, but I have witnessed its efficacy in the absence of other remedies. The practice indulged in by the laity of pouring oils, etc., into the ear is a vicious one, since these become rancid, irritate, and predispose to a subsequent inflammation. Poulticing is also bad, for it favors suppuration and perforation of the drumhead.—Dr. Seth Scott Bishop, Diseases of the Ear, Nose and Throat.

THE SULPHOCARBOLATES.—The season is here when the fermentative troubles of the gastro-intestinal tract will be prevalent. Cholera infantum, diarrhœa, dysentery, etc., will be met with every day by the medical practitioner.

Improved methods of treatment, by means of intestinal antiseptics, enable the physician to get much better results now than a few years ago. Of all the intestinal antiseptics, the Sulphocarbolates of Zinc, Sodium and Lime stand at the head. Their free use is all the medicine needed in many cases, especially children. The fact that the Sulphocarbolates can be used in quite large doses with safety is a valuable feature. Many cases of cholera infantum can be quickly cured by the early use of Sulphocarbolates and proper attention to the food. In adults, the addition of a small dose of some opiate to the Sulphocarbolates insures a speedy cure, by lessening intestinal secretion peristalsis. In some cases the tonic action of strychnine adds to the treatment.

The Sulphocarbolates are to-day the leading remedies in treating these diseases, and should be used by all physicians. The Sulphocarbolate tablet, pill or granule is convenient to dispense and efficient in results.—*Wis. Med. Recorder.*

[While the above may be very good treatment, we question the sweeping claims made.—ED. GA. JOUR.]

THE USE OF ERGOT TO OVERCOME INERTIA OF THE UTERUS DURING LABOR.—S. S. Cartwright, M. D., in *N. Y. Medical Record*, in giving his experience with ergot, says, after the careful use of ergot in the above cases for several years, he concludes that it is often the case when women have borne four or five children that in succeeding labors the pains are feeble and slow, but an examination reveals a dilatable os and no obstruction. In such cases his plan is to give from ten to fifteen drops of fluid extract of ergot. The ten-drop dose is generally sufficient, but this can be repeated in an hour if no effect is produced. He never exceeds fifteen drops at a dose. The effect of this generally is that in less than an hour the pains become stronger and regular, and in from two to three hours the labor is completed. The pains in these cases never become continuous, like the pains from large doses of ergot, but there are always distinct intermissions. He regards this use of ergot as perfectly safe for mother and child, never having had a stillborn child in any of the cases in which he has administered it, and has never had to give over two doses.

Use needles a size larger than seems necessary, and see that they are smooth and sharp.

Varnal says he cures anal fissure most successfully by the direct application of pure collodion.

Unless there are special indications aseptic wounds do not need redressing for eight to ten days.

Wounds about the face may be closed by a subcutaneous ligature, and thus render a scar less likely.

Five drops of anemonin, repeated as needed, is advised in the treatment of amenorrhea from cold.

The rectal injection of 30 grains of chloral hydrate is advised as curative in the vomiting of pregnancy.

Piperazin is being used externally in solution in the treatment of rheumatism and gout with excellent results.

A teaspoonful of glycerin at meal time, in water, or coffee or tea, will cure a sour stomach and overcome flatulency.

The Lyon *Medical* says tnat washing the hands with orange juice water after using iodoform dispels the unpleasant smell.

To remove warts painlessly and with avoidance of scars apply a supersaturated solution of potassium bichromate once daily.

A 10-grain dose of santonine, taken with a hot mustard foot-bath at bedtime, will act as an excellent and safe emmenagogue.

The tincture of the horse-chestnut, in 10 drop doses every three hours, is said to be of value in the treatment of hemorrhoids.

Gauze, soaked in three per cent. to five per cent. warm carbolic acid solution, makes a most soothing and efficient poultice.

The persistent free application of melted lanolin to an old, wrinkled skin will surely restore a fresh and smooth appearance.

Spare neither gauze, cotton or bandage in completing a dressing so that it may be comfortable, efficient and of pleasing appearance.

Tincture hydrastis and tincture viburnum prunifolium, equal parts, 10 drops every two hours, is stated as excellent for dysmenorrhea.

Dr. Jacobi says that cow's milk should never be given to infants without a little addition of salt to prevent the solid coagulation of the milk.

Aristol is declared by a competent authority to be far superior to iodoform in the treatment of indolent ulcers and in many diseases of the ear, nose and throat.

Dr. Hare says that when a patient has Bright's disease, and requires for any purpose any anesthetic, chloroform should be used, as so little is necessary that the kidneys are not irritated.

Dilute hypophosphoric acid, 1 ounce; strychnine sulphate, 45.100. Three or four drops in a teaspoonful of fluid extract of cocoa, before each meal, is considered valuable in impotence.

MEDICINE.

UNDER THE CHARGE OF

WM. CLIFTON LYLE, M. D.,
Instructor in Chemistry in the Medical College of Augusta, Augusta, Ga.;
R. L. PAYNE, A. M., M. D.,
Norfolk, Va.

PRECAUTIONS AGAINST MALARIA.—Mr. William T. Hornaday says: "After living in the most malarious jungles on earth, in the midst of miasmatic swamps, drinking swamp water, and often having to eat unaccustomed and badly cooked food, I never had but one touch of jungle fever, and that only laid me up for six or seven days. I owe my excellent health to two or three precautions. I never slept on the bare ground or in the rain, and always under shelter. I always wore light flannels next to the skin, and never slept in damp clothes. Whatever else I might have to do without, two changes of flannel underwear, besides that which I had on were always at hand. Take from 5 to 6 grains of quinine every morning in a cup of hot coffee, if you have it; if not, then in hot water. Have your shoes to fit you, even if you must buy them yourself, though the United States is furnishing its troops with an excellent marching shoe. With these precautions and a dose of some light laxative once a week, there need be no more fear of fever in Cuba than there is in Missouri."

[Even with these precautions there is much more danger of fever in Cuba than there is in Missouri. We will learn of it later.—ED. GA. JOUR.]

ROMAN FEVER.—The superstition that Rome is an unhealthy place to live in is discussed by Mr. W. I. Stillman, in "Old Rome and New." Mr. Stillman has lived in Rome so many years that his judgment on this subject may be accepted as of great value. He states that the superstition as to the sanitary condition of Rome runs back into the dark ages, but is unjustified by any statistics. He says that in a residence of nearly a dozen years in the aggregate, and extending over a period of thirty years, he has never had a serious illness or a case of typhoid or malaria in his family, nor among his acquaintances has he ever known one-half dozen cases of intermittent or malarial fever, and not one ot any gravity. He has repeatedly stayed in Rome during the entire summer, without any discomfort or inconvenience. He has never met with a case of so-called pernicious fever, and Dr. Drummond, who has practiced in Rome for years, says he never saw a case. The statistics of the Italian sanitary department are drawn with the greatest care and exactitude, and the record of deaths from malarial fever for the commune of Rome, including the Campagna and all of the malarial districts, showed a total of only three hundred and eight out of a population of five hundred thousand, and this enumeration includes peasants who spend their lives in the marshy and fever-infected districts. Mr. Stillman says he has travelled in the worst parts of the Maremma, which are regarded as the most deadly and malarial in Italy, as late as the latter part of June, and he found the harvesters at work in gangs; and at Grosetto, the capital of Maremma, which the guidebooks tell is abandoned by the inhabitants on the 1st of May, he found the entire population on the ramparts listening to the band until late in the evening. Typhoid is common in all great cities, but in Rome less so than most cities of its size. The water supply of Rome is probably the best as to its purity and the most abundant in quantity of any furnished to great cities. Typhoid very rarely occurs among the inhabitants of the better class, except from drinking water at some wayside spring. The sanitary laws are inflexible, and the tenant of a neglected house has always the remedy in his own hands. Mr. Stillman says: "I have no hesitation in saying a person in moderate circumstances, able to choose his quarters, can pass the months between September and July in Rome under as favorable conditions of health and comfort as in any city of Europe; and, with less precautions against the heat than in New York one must take against the cold, he may pass the entire year." —*Med. Rec.*

FEW SUGGESTIONS ON THE PREVENTION OF TUBERCULOSIS.—By J. A. Burroughs, M. D., Asheville, N. C. The above is the title of a paper read before the North Carolina Medical Society in Charlotte, N. C., May, 1898. In speaking of the prevention of tuberculosis the Dr. says we all admit that tuberculosis is an infectious and contagious disease and, at the same time, must admit that all contagious and infectious diseases could be prevented if we only knew what to do.

The author says: As soon as a diagnosis of tuberculosis is made, first of all, without an exception, it should be communicated to the patient, and he should be informed of all known facts on the contagiousness of the disease so that he would not be a source of danger to others or re-infect himself. The sputa is the principal means by which contagion is spread. All the sputa should be collected in a sanitary hand cuspidor and the papers removed at least twice daily and exposed in a strong solution of bichloride of mercury or cremated; see to the thorough destruction of these papers of sputa, do not allow them to be thrown into the sink to infect people or cattle miles away; do not permit a blaze to consume the dry portions of paper, leaving the sputa with its millions of germs unmolested to dry and do their deadly work; make the patient understand that it is the sputa you wish to have thoroughly burned.

Patients in the first stage, in fact all stages, of the disease, do a greater portion of their coughing and expectorating on rising in the morning, and it incurs no hardship to demand this duty of them, in which they soon acquiesce.

About two years ago the little city of Asheville, N. C., passed an anti-expectoration ordinance (which was the first ordinance of the kind in the country), since which time one hundred and seventeen cities and towns in the United States have passed a similar law. It has proven a great educational feature with the masses, and practically put a stop to the dangerous insanitary nuisance of spitting upon the sidewalk, in the street cars and public buildings in the city where the anti-expectoration ordinance was originated. All cities that have passed this ordinance have experienced trouble in enforcing a strict letter of the law, millionaires instituted suits for damages against corporations because of reproof and ejectment for vulgarly violating this ordinance, but this has only had a good, wholesome and stimulating effect upon the people—it has put them to thinking.

The poor consumptive of to-day, who is properly informed, is careful with his sputa, he feels that indifference on this point may be death to others, cause him litigation, or hasten a crisis in his own case.

It is an admitted fact that no child is born with tuberculosis, yet they do inherit that peculiar lymphatic, anemic, poorly nourished constitution which gives them but little or no resistance when exposed; to permit these unfortunate children to reside in tubercular homes with like habits and environments as their infected parents or relatives is nothing short of criminal negligence. Such children should be removed to an altitude of dry, rarefied atmosphere loaded with ozone and perpetual sunshine; in conducting them into puberty and settled life, short school hours should be provided, with much time spent in the open air; this class should be induced and taught the necessity of eating such food as will make blood and build up good, healthy tissue cells, so as to give them all possible means of resisting any invasion of this dreaded enemy.

Every large collection of people should have a competent bacteriologist to keep a watch over its meat and milk supply, with an especial view to prevent tubercular infection; this official would doubtless save the corporation employing him many times his salary, in pauper burial expenses, to say nothing of the protection to human life.

Malnutrition, insufficient food of a poor quality, and over-crowding of tenements and public buildings are subjects that are constantly confronting health boards and individual practitioners; each is a subject within itself.

The author condemns the overcrowded school buildings and orphan homes; a glance at the pale anemic faces in a public schoolroom would convince the most skeptical of the vicious results of improper ventilation. That many children become infected in the vitiated atmosphere of the schoolroom is a painful fact that is only too often brought to our notice.

If mountain air, containing, as it does, large quantities of ozone, is beneficial, and often curative, in tuberculosis, why not bring a similar condition to bear in the insanitary schoolroom or other places where there is assembled a large and permanent collection of people.

He advises the use of an ozone-generating apparatus, which is not expensive and can be connected with an electric current from street car wire coming into building or with a private dynamo; with the proper apparatus the whole building can be impregnated with this germ-destroying gas.

In any large assemblage of children some one or more have tuberculosis which has not been suspected by teacher, family or consulting physician. If the ozonizing of school buildings were put into practice, that source of tuberculosis, with all other contagious and infectious diseases, would be practically cut off, and the children would have a nice, sweet, clean, non-germ laden fluid to breathe; this idea adopted in the school there would be fewer constitutions prepared for tubercular infection.

In his judgment no hospital or sanitorium, either private or public, should be kept open unless there was ample provision for ozoning the entire building from cellar to garret. The statistics of mortality from tuberculosis in insane asylums and prisons of the different States is sufficient to suggest a consideration of the Doctor's idea of generating ozone for overcrowded buildings. We know that something is wrong when strong men in a few months after incarceration become tubercular. With an ample ozonizing apparatus placed in these prisons and asylums there would be marked diminution of tuberculosis.

The ozonizing of all hotels, and especially Pullman cars, is the most rational solution of the danger along that line. The author says that in one of the "babies' wards" in the New York Post-Graduate Hospital, where an ozone-generating apparatus is used, contagious diseases are almost a curiosity, whereas in non-ozoned wards quite a number have occurred.

Dr. Carr, in discussing Dr. Burroughs' paper, relates an occurrence that came under his observation several years while traveling in the mountains of Switzerland, with a case pronounced consumption by a number of doctors. They were traveling in the mountains of Switzerland, and in a little village in which they stopped there was great excitement. A French soldier who had lived there had been ordered away, and contracted a cough and come back. He lingered there for some time with his wife who nursed him, and he died with that cough. His wife took that cough and died also. The father of this lady was a well-to-do farmer, and had sold a great many chickens. It was a kind of watering place there, and pretty soon something like consumption, a regular epidemic, broke out around that little town and created great excitement. Some big French doctor came and looked at it and pronounced it a genuine consumption, and he made the cause of it out in this way: That when that French soldier contracted that disease and brought it to that little mountain town he gave it to his wife. Her father raised a great many chickens, and every afternoon she would go and sit down in the yard, and every time she would emit an expectoration the chickens picked up the sputum and ate it, thus giving it to the different people around who bought and ate those chickens. He says he didn't pay much attention to it at the time, but when he came back to America he found that it was published in our journals. Those chickens had eaten the sputa containing the bacilli, and from them they had been conveyed to the people.

A SIMPLE TEST FOR THE PURITY OF WATER.—The *Massachusetts Medical Journal* for May quotes from *Health*, for persons who can not command chemical analysis, the following simple tests for the purity of water:

Fill a bottle made of colorless glass with the water; look through the water at some black object; the water should then appear perfectly colorless and free from suspended matter. A muddy or turbid appearance would indicate the presence of soluble organic matter, or of soluble matter in suspension. It should be "clear as crystal."

Empty out some of the water, leaving the bottle half full; cork up the bottle and place it for a few hours in a warm place; shake up the water, remove the cork, and critically smell the air contained in the bottle. If it has any smell, and especially if the odor is in the least repulsive, the water should be rejected for domestic use. By heating the water to boiling an odor is sometimes evolved that otherwise would not appear.

Pure water should be tasteless and remain so after being warmed. It should also be odorless; but, since the delicacy of smell and taste varies greatly, sanitarians attach special importance to Heisch's test for sewage contamination or the presence of putrescible organic matter. A clean pint bottle is filled three-fourths full of the water to be tested, and in the water is dissolved a teaspoonful of the purest sugar —loaf or granulated sugar will answer; the bottle is then corked and kept in a warm place for two days. If in from twenty-four to forty-eight hours the water becomes cloudy or muddy, it is unfit for domestic use. If it remains perfectly clear it is probably safe to use.—*N. Y. Med. Jour.*

ANTISEPTIC TREATMENT OF BURNS.—Dr. M. B. Werner (*Philadelphia Polyclinic*) claims excellent results from the following plan:

1. Placed the burned member or surface into a carbolized bath of from 2 per cent. to 5 per cent., depending on the age of the patient and the extent of the injured surface. A threefold effect is gained by this, i. e., antisepsis, asepsis, anesthesia.
2. Remove all the acid solution by a second bath in the physiologic saline solution.
3. Dust the entire surface with a powder containing acentanilid (1 part), compound zinc stearate (5 parts).
4. Cover the surface with narrow strips of Lister's green protective, or, if economy must be studied, thin gutta percha tissue can be used instead.
5. Place wet sublimated gauze ten to twenty thicknesses over and around the surface, followed by ordinary bandaging.

The subsequent dressings differ in only one or two points from the first, as stated above. The carbolized bath is replaced by one of either the saline solution, or a weak solution of mercury bichlorid, followed by a spray of hydrogen dioxid, which, will aid in removing all the pus and loose dead tissues. After this the surface is dusted with the powder, and protective strips, gauze and bandages are applied. These dressings are changed as often as needed, the extent and depth of the burn making its own rule.

GENERAL SURGERY.

UNDER THE CHARGE OF
HUGH M. TAYLOR M. D.,
Professor of Surgery in the University College of Medicine, Richmond, Va.;
WILLIS F. WESTMORELAND, M. D.,
Professor of Surgery in the Atlanta College of Physicians and Surgeons, Atlanta, Ga.

A NEW OPERATION FOR THE TREATMENT OF HEMORRHOIDS.—Dr. Geo. K. Simms, writing in the *Va. Med. Mo.*, in speaking of the various methods of operating on piles says he finds them all subject to various objections. 1. They leave a stump that must slough off, or an open wound that must heal by granulation. 2. That in a location like the rectum, it is utterly impossible to keep an open wound aseptic. 3. There is a possibility of serious systemic poisoning should these open wounds become infected with potteogenic microbs. 4. That wounds which heal by granulation leave a great amount of cicatricial tissue which will contract and distort the organ.

The operation which he proposes, if properly done, will overcome to a great extent these objections. The operation is tedious to perform, takes more time, but the advantages gained by the patient more than compensate for the time and trouble.

Operation.—Preparatory he orders a mercurial purgative on the two evenings preceding the day of operation, and a saline each morning before breakfast to clean the bowels and to stimulate the putal circulation. The author observes the usual toilet preparation in the field of operation. When the patient is anæsthetized and placed in the Lithotomy position, the sphincter is dilated and further stretched till paralyzed. When the piles prevent, here the author everts the pile as much as possible and irrigates the rectum and cercum-anal region with a 1-2000 mercuric chloride solution. He pulls up the tumors one by one with four-pronged forceps, which are then held by his assistant, then with a sharp scalpel the mucus membrane is cut through, around the base of the pile and ligated with silk tied tightly in the groove (made by the incision), including only the blood vessels and connective tissue. The operator now cuts off the pile close to the ligature, leaving only enough to hold it; then he brings the cut edges of the mucosa together over the stump with continuous sutures of catgut. In a large pile he uses a large curved needle, passes a double ligature through its base, and ligates in two portions, suturing the mucus membrane as above.

If there are external piles present, he advises the same method to remove them, if large and vascular, or if due to a thrombus; but if they are small or are much indurated he advises that they may be simply cut off close to the skin, all bleeding points caught with forceps and ligated, the cut edges brought into close apposition, with interrupted sutures of silk. The field of operation is again irrigated with a hot bichloride of mercury solution, the parts dusted with iodoform or aristol, the mucosa pushed in well and a small piece of iodoform gauze inserted, leaving the end protruding from the anus. A pad of gauze is placed over the anus, and over this a pad of absorbent cotton is bound firmly with a "T" bandage.

A hypodermic injection of morphia, one quarter grain, with atropia, 1-150 grain, is given, and patient put to bed.

The bowels should not be moved for three or four days, by which time the wounds should be nearly healed; they should then be moved by salines and enemata. The advantages claimed for the operation are: 1. That by leaving only closed wounds, made under antiseptic precautions, the risk of suppuration, and perhaps more serious infection is lessened. 2. They heal in a much shorter time, and with less pain and suffering. 3. There is less danger of hemorrhage and of distortion. 4. There is less danger of neuralgia of the rectum from contraction of the cicatricial tissue.

THE FORCIBLE CORRECTION OF THE DEFORMITY OF POTT'S DISEASE.—Menard (*La Press Méd.*, No. 57, 1897), after a careful study of the effect of this method of reduction upon a number of cases in post-mortems, and a careful review of the respirative process as seen in pathological specimens, says that the method must be considered wrong if applied to all forms of Pott's disease irrespective of their situation and volume. It is impossible to estimate the consequences, and the greatest caution should be maintained in expressing an opinion as to the future usefulness of the methods.

It is impossible to calculate the accidents which may follow upon this forcible reduction. The result of this procedure upon the tubercular focus is not known; all that can be said is that in all other parts of the body traumatism aggravates osteo-arthritic tubercular disease, and occasionally give rise to the formation of abscesses. One cannot be far from wrong in predicting grave complications as the result of this treatment. It is the general rule that no new bone is formed in the reparative process subsequent to tubercular disease of the vertebræ. There is nothing to authorize the belief that in this case any bone will be formed to supply the enormous bone defect which is always present. Such bone-formation never takes place after tubercular disease anywhere. The law is that these defects are filled up and unions produced by fibrous tissue.

The following remarks on hydrocele are taken from the *Monthly Cyclopaedia of Practical Medicine and Universal Medical Journal.*

TREATMENT.—The old method of injection of iodine causes a very painful inflammatory reaction, and, in common with the more recent treatment by incision and drainage, necessitates prolonged rest in bed, and does not insure freedom from relapse. Instead, make a free incision into the sac, apply a 3-per-cent. solution of carbolic acid to the surface of the exposed testicle and the whole of the inner surface of the tunica vaginalis, and stuff the cavity with strips of iodoform gauze. After removal of the gauze on the third or fourth day, the wound in the skin is closed by catgut sutures. Of 18 cases treated by this method, the patients having been seen after intervals between eight months and five years from the date of operation, in one only was a relapse noted—this was a case of a very large hydrocele in a man aged 64 years. Block (*Rev. de Chir.*, Feb. 2, 1898).

Hydrocele of the tunica vaginalis is best treated by puncture and injection of a 1 to 1000 solution of sublimate. The injection only causes a little pain in the thighs, and the fluid disappears in about a fortnight. Two injections of sublimate, without alcohol, should follow the puncture, and, lastly, a boric-acid solution injected. Twenty-seven cases thus managed were all successful. Etienne (*Gaz. des Hôp.*, Jan. 8, 1898).

The advantages of the open method—*i. e.*, incision, suturing of the vaginal tunic to the skin, and continued drainage—are: the operation can be made absolutely painless by the use of weak cocaine solutions, and can be performed in the office; there is no inflammatory reaction; patients are not confined to bed, and are not even prevented from attending to their usual business callings; the testicle is less likely to be injured than is the case when inflammatory reaction is set up by injections of iodine or other irritating agents; and the cure is more likely to be radical. The dressing is extremely simple, consisting of a thick mass of sterile gauze held in place by a suspensory bandage. Martin (*Phila. Polyclinic*, March 26, 1898).

[We have recently seen it claimed that the introduction of a short piece of sterile catgut into the sac after evacuation gives most excellent results.—Ed. Ga. Jour.].

Surgical Hints.—If a soft catheter meets with a urethral obstruction, try a larger one before you try one of smaller size.

Do not treat a gunshot wound of the abdomen by the "expectant" method, for you need "expect" nothing good.

Never lose patience while working in the urethra. A single violent or impatient thrust of the instrument may do irreparable harm. Think of your responsibility.

A suppurating prepatellar bursa had best be dissected out without previous treatment by poultices or dressings. If there is an opening rendering the sac flaccid, make the hole a little larger, stuff a sponge into the sac, and the dissection will be rendered easier and surer.

Intestinal obstruction requires operative interference. If the patient is very weak from long delay, and you find the constriction anywhere in the large intestine, beware of trying to do too much. Remember that colotomy and the establishment of an artificial anus will often tide your patient over the crisis.—*Int. Jour. Surg.*

A New Method of Skin Grafting.—Dr. George T. Doolittle, of Spokane, Wash., contributes the history of a case to the *Journal of the American Medical Association*, in which he found the so-called safety razor very useful in the securing of grafts. The case reported was an ulcer of the leg of long standing, and covered about seventy-five square inches:

"We decided," he says, "to do skin grafting and use the safety razor to cut the grafts with. The first attempt was successful, and we were able to make grafts one and a-half by two and a-half inches and of an even thickness Later we made large cuts, one and a-half by five inches, the large growing as readily as the small, with the advantage that the larger the grafts the less secretion from the granular surface. The advantage of the safety razor over the knife or common razor was marked by the quickness and ease with which these sections were obtained. The skin from which the grafts were taken were first shaved, so the hair would not increase the liability of the grafts to stick to the dressing, then scrubbed with green soap and water and washed over with ether or alcohol.

"A few words are necessary in regard to the razor. (The Star made the best cuts.) Set the blade forward to about the edge of the guard. Grasp the razor between the thumb and first and second finger, thumb at the front of the razor, and the first and second finger pressed firmly against the back of the blade to keep it from slipping. With the left hand hold the skin tight just back of where you begin to cut; hold the blade at an angle of about 45 degrees with the skin surface; cut toward you and against the grain; don't be afraid to bear down until you feel the blade taking hold of the skin, which will roll up on the blade as it is cut. After a little practice a strip six or eight inches long can be cut if necessary. Remove the blade and the skin will be found gathered up and the upper surface ready to spread, which is done by placing the blade flat on the granulations, holding down the last cut edge of the skin with some light instrument and withdrawing the blade. The skin will readily spread evenly over the granular surface."

Dr. E. Michel Holder, of Memphis, Tenn., discussing penetrating wounds of the abdomen in *Memphis Medical Monthly,* March, 1898, concludes his article by saying:

If I were asked what three things are specially conducive to success in this class of operations, my reply would be as follows: First, early operation and the most rigid precautions to insure antisepsis, and if possible, asepsis. Second, minute attention to the details of the operation. And third, constant watchfulness in the matter of after treatment.

Quoting from a recent textbook, the argument in favor of operative interference in penetrating or supposed penetrating wounds may be briefly stated as follows:

1. The enlargement of a wound sufficiently to demonstrate its opening (or not opening) into the cavity of the peritoneum, is a simple procedure, practically without danger.
2. Abdominal section is not a difficult, nor when skillfully and properly performed, a dangerous operation.
3. A penetrating wound of the abdomen, left without surgical interference, is attended always with great danger.
4. If any vessels of size are divided, hemorrhage is an immediate danger, and peritonitis a serious and profoundly fatal complication.
5. If the alimentary canal is opened, death is almost inevitable. The few recorded cases of recovery form such an infinitesimal proportion of the whole, that they should carry no weight against interference.

RAILWAY SURGERY.

UNDER THE CHARGE OF
FRANK H. CALDWELL. M. D.
Chief Surgeon Plant System of Railways, Waycross, Ga.;
R P. IZLAR, M. D.
Major and Surgeon U. S. Volunteers; House Surgeon General Hospital Plant System of Railways, Waycross, Ga.

We expect to publish a series of articles on shock and its treatment, treating also the subject of Railway Spine. We trust that every Railway Surgeon will read these articles, and we would be pleased to have contributions on the subject, articles short and to the point.

We hope to make this Department of the JOURNAL both interesting and profitable.

Subscribe for the JOURNAL if you want the news.

PERSONAL MENTION—In conversation with General Legret, of the Cuban Army, we were informed that the General preferred to have railroad surgeons appointed to serve in his regiment, because the railroad surgeons are accustomed to handling emergency work, "Acute Surgery," as the General expressed it. Right you are General. The experienced railroad surgeon will be heard from before the war ends, and he will be found to be the "right man in the right place."

Major Izlar, Regimental Surgeon of the First Florida Regiment, expects to sail for Cuba with the next expedition sent to the Island. His regiment has been transferred from the Seventh to the Fourth Corps.

Dr. C. M. Drake, President of the Association of Railway Surgeons of the Southern Railway, has been appointed Regimental Surgeon, with the rank of Major.

Prof. William H. Daly, Surgeon of Pennsylvania Railway, West of Pittsburg, has been appointed Surgeon on the staff of Major General Miles, with the rank of Major.

Railroad surgeons are "strictly in it." There are many more who have received desirable appointments, but our space forbids further mention this month. We expect to post the boys, however, from time to time.

THE NORMAL SALINE SOLUTION IN THE TREATMENT OF SHOCK AND HEMORRHAGE.—Goltz, Fisher and others maintain that the real essence of shock is a paralysis of the vaso-motor center in the medulla oblongata tending to cardiac paralysis; that there is an incomplete filling of the heart, a weakening of its propelling force in driving on the blood stream, and hence a lessening in the speed of the current along with a reduced blood pressure; that the blood is irregularly and unequally distributed in the arterial system, and that with this there is an anæmic condition of the lungs and brain, and an engorgement of the venous side of the circulation. It is a reasonable inference that outside of the manner of occurrence that there are many elements of similarity in the physical manifestations of excessive hemorrhage and profound shock. In the treatment it is at times difficult to determine the most salient element: whether the condition is due to an excessive loss of blood or to shock, or to a combination of both.

In both hemorrhage and shock, however, there is plainly a cardiac paralysis, an incomplete filling of the heart and an inefficient propelling force.

It is useless to argue, "ad extremum," as the particularly successful plan of treatment in both instances is the intelligent use of normal saline solution.

The stimulus given to the heart through the infusion and injection of these saline solutions seems to have been more uniformly successful than any other means yet devised. All cases of hemorrhage strongly resemble in many details cases of severe shock without hemorrhage, and the reverse holds good that patients with severe shock resemble cases of excessive hemorrhage, while in shock, in many instances, there may be a paralysis of the vaso-motor center in the medulla oblongata, yet in hemorrhage, as in shock, there is incomplete filling of the heart, a weakening of the heart's propelling power, a lessened current and reduced blood pressure; hence it is immaterial which ætiological condition we have to deal with, their resulting symptoms are similar. In violent or accidental surgery it is not unusual to have both shock and hemorrhage combined, and it would indeed be a rare diagnostician who could make anything like a differential diagnosis in many cases seen by the railway surgeon.

For all practical purposes this is not absolutely necessary since the treatment for both hemorrhage and shock which has demonstrated the greatest virtue has been the intelligent use of the normal saline solution.

While an intra-venous infusion seems to be best in both shock and hemorrhage because of rapidity of action, still the preparations necessary always require care and time, and even though in certain cases it is pre-eminently superior to other means it will not always meet the immediate demand in violent surgery. Frequently, in accidental surgery, every moment counts, hence we believe in giving, as rapidly as possible the saline solutions subcutaneously and per rectum. A seven-tenths solution or a six-tenths solution of common salt to be used as a subcutaneous injection, or as an enema can be made quickly and applied without loss of time; massage will hasten absorption.

It has been demonstrated that the system, even with an impaired heart, is competent to take up great quantities of the solutions, and we do not believe that any case of shock in violent surgery can be properly treated without using either an infusion or injection of these salt solutions. Certain it is that success appears to come in this direction, and a sensible logical conclusion from existing pathological data would point to the use of these solutions. Their use is indicated both clinically and physically.—*Railway Surgeon.*

PRACTICAL HINTS.

An aseptic dressing placed over a wound that is expected to unite by first intention, should be left undisturbed until it is time to remove the stitches, or until there is reason to believe that the case is not running the expected aseptic course.

Fractures of the arm and fore-arm are often kept too long in splints, and the resulting atrophy from disuse may in the end be far more serious to the patient than a moderate degree of deformity with a sturdy and useful member.

A dislocation should be reduced as soon as possible, while a fracture may often be allowed to wait for a convenient time and place, the emergency dressing simply guarding against such accidents as perforation of the skin by subcutaneous fragments of bone, dangerous pressure upon important structures, or threatened laceration of nerves or vessels.

In purchasing surgical instruments select by preference those which are large enough and strong enough to be used with comfort. Toy instruments, such as may be found in many pocket cases, are often worse than useless. Let your instruments be few, simple and efficient.

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JUL 14 1899

To Clean Rusty Instruments.—Brodie gives the following as an effective method of cleaning rusty instrument:

"Fill suitable vessel with saturated solution of stannous chloride (chloride of tin) in distilled water. Immerse the rusty instruments and let them remain over night. Rub dry with chamois after rinsing in running water, and they will be of a bright silvery whiteness."—*Journal British Dental Association.*

Irrigation of wounds should never be performed with a rubber fountain syringe which has ever been used for the giving of an enema. Rectal peristalis during the adminstration of the enema often forces fecal matter through the rubber tube and into the bag. This may easily be demonstrated by giving an enema with a glass irrigator bottle, when feces may be seen to enter the bottle and mix with the water therein contained. A new nozzle or tip is not, therefore, a sufficient guaranty of asepsis. Always use a new syringe.

When a mass of tissue has been removed from the soft parts in an aseptic operation, it is well, by means of sutures, to obliterate as much as possible of the vacant space, bringing its walls everywhere into contact. If this is not done, the defect fills with clot which forms a tempting feast for the germs of putrefaction.

OBSTETRICS AND GYNÆCOLOGY.

UNDER THE CHARGE OF
WILLIAM S. GARDNER, M. D.,
Instructor in Gynæcology in the College of Physicians and Surgeons, Baltimore, Md.;
HUBERT A. ROYSTER, A. B., M. D.,
Raleigh, N. C.

Placenta and Fetal Membranes.—This subject was thoroughly discussed at the recent Congress of German Physicians. The first paper was read by Herff, who, after reviewing the literature, states that, although understanding the structure of the complete placenta, we are ignorant of the origin and formation of the intervillous spaces. As to the time when these spaces first appear we are absolutely uninformed; we only know from the investigations of Leopold that this must take place at a very early date. Physiology teaches us that numerous substances travel from mother to child through the placenta. The passage of crystalline materials, such as sugar, salts and so forth, may be explained by osmosis. The fetus, however, requires large quantities of colloids, albumen being its only source of fat. Here purely physical laws do not suffice, and the only means by which the albumen could reach the fetus would be after a peptonizing process occurring in the placental tissues. The only portion of the placenta capable of performing this function is the protoplasmic villous covering—namely, the syncytium. We also know that this peculiar tissue is at times the seat of malignant growths. The syncytium, therefore, is of both physiological and pathological importance. It is important for us to know whether the syncytium is of connective-tissue origin or is altered maternal epithelium or endothelium, or whether it is of purely fetal origin. These important questions, however, can only be decided after fully understanding the process by which the ovum becomes engrafted upon the uterine mucous membrane and the subsequent formation of the reflexa. These processes have never been observed in the human being, and the mode of procedure can only be suspected. We must, therefore, to obtain an inside view into the formation of the reflexa and the origin of the syncytium, look to the animal kingdom for analogous processes.

Kossmann reports his experiments and observations with the placenta of rodents and other animals with the object of discovering the etiology of carcinoma syncytiale. The syncytium arises from the maternal epithelium, and not from a layer of ectoderm as stated by Duval. These aforementioned types of carcinoma, or deciduoma malignum as termed by other authors, consist largely of true syncytial structure. If the syncytium were of fetal origin the most anomalous condition would exist—that an original fetal cancer would grow and extend into maternal structures instead of into the fetus. Kossmann, however, considers syncytium to be nothing else but altered uterine epithelium. In carcinoma syncytiale we have to deal with cases of cancer in which the uterine tissues have assumed an abnormal character. The facts that metastases in syncytial cancer are generally scattered by means of the vascular system does not weak-en this theory. The blood channels in the puerperal uterus are widely distended, and it is not difficult for particles of syncytium to be swept into the general circulation. We also have in this an explanation of the not infrequent finding of the villi in these metastases. In regard to the relations of the vascular mole and syncytial cancer, Kossmann believes the cancer and not the mole to be the primary growth. The cancer produces abnormal nutrition in the fetal structures and thus causes their abnormal development.

The High Application of Forceps in Case of Contracted Pelvis.—In the Archvia *Archiv Fur Gynakologie*, Band, lv., 1, Heft 1898, Tòth contributes on extensive paper upon this subject, narrating the experiences of the staff of the Obstetric Clinic at Budapest.

His cases number forty-four, and he reaches the following conclusions from his studies:

The high application of the forceps is not an especially dangerous procedure for mother or child. When the head presents it is much to be preferred to prodalic version. The high application of forceps should always be treated before resorting to craniotomy in cases where version is not indicated. In pelves which are not highly contracted the forceps is to be preferred to version, because an effort to deliver with forceps does not prevent the physician from awaiting a spontaneous issue of the birth. The same thing is true is cases where the child is excessively large. Where, however, the high forceps does not succeed, craniotomy must be performed. If all the conditions are favorable, symphysiotomy may be tried. For this use of forceps, long, well-made instrument is necessary, and of these Tarnier's has been found the best.

Perforation of the Uterine Wall During Curettage.—Jahreiss (*Central blatt für Gynäkologie*, 1898, No. 6,) reports two cases in which, during careful curettage after abortion, without previous dilatation, the instrument suddenly penetrated the uterine cavity as far as the handle. In one instance the end of the curette could be felt within a dilated tube; in the other the entire absence of any reaction led the operator to infer that the same accident had occurred. In a third case, in which he did perforate the uterine wall, peritonitis developed, and he performed cœliotomy successfully on the fourth day. He admits that it is not easy to demonstrate the fact that the end of the curette has merely entered a dilated tube.

Glæsser (*Ibid.*) reports the case of a woman who had been confined three months before, and suffered from menorrhagia, to relieve which it was proposed to curette the uterine cavity. A sound was gently introduced, and without the slightest sense of resistance it slipped through the cervix as far as the handle. It was reintroduced several times, and the same phenomenon was noted, so that it was supposed to have entered a dilated tube. As there was profuse hemorrhage, however, the writer feared that he had perforated the uterine wall, and promptly performed vaginal hysterectomy. On examining the uterus four openings were found at the fundus. The wall was so soft that it was possible to pass the sound and even the finger through it without the least effort. The danger of curetting such uteri is evident.

INFLUENCE OF MORPHINE AND ETHER UPON LABOR PAINS.—Hensen (*Archiv für Gynäkologie*, 1898, Band lv, Heft 1,) has conducted a series of experiments to ascertain the effect of morphine and of ether upon uterine contractions. In ordinary doses morphine is without influence on contractions of the uterus and abdominal muscles. Ether greatly lessens the force of uterine contractions so soon as one-half minute after inhalation begins. The effect of ether disappears in from five to twenty minutes. The contractions of the abdominal muscles cease during anæsthesia under ether. As regards the difference between ether and chloroform the immediate effect of each is practically the same, but the patient recovers her power of uterine contraction far sooner after the use of ether than after the employment of chloroform.

CÆSARIAN SECTION WITH TRANSVERSE INCISION OF THE FUNDUS.—In the *Wiener klinische Wochenschrift*, 1897, No. 52, Hain reports the following case:

The patient was a primipara, aged 30 years, who had been in labor thirty-six hours. She had a justo-minor pelvis, with true conjugate less than three inches. The abdomen was opened, an elastic ligature placed about the cervix, and the uterus opened by a transverse incision across the fundus. The child and placenta were readily removed. Seven silk stitches closed the deeper tissues in the uterus, and the superficial parts were readily brought together. There was considerable hemorrhage, which was controlled by the injection of ergot. The patient made a good recovery.

LACERATION OF THE RECTUM ABOVE THE SPINCHTER IN NORMAL LABOR. —Gmeiner (*Centralblatt für Gynäkologie*, 1898, No. 10,) reports the case of a primipara, aged 21 years, who had a spontaneous delivery. The fœtus was in the usual position, and, as delay occurred in labor, the patient was given a warm bath. Membranes ruptured spontaneously, and soon after it was found that with every pain amniotic liquid was escaping through the rectum. To prevent further laceration episiotomy was performed. After the delivery of the child and its appendages an examination showed three small apertures in the anterior wall of the rectum. These were closed with catgut, the pelvic floor was repaired, and the perineum closed. The patient made an excellent recovery.

In an article on diagnosis of small ovarian tumors Dr. Davenport arrives at these conclusions:

1. Small intrapelvic growths give rise to marked symptoms.
2. Pain is usually noted, but does not bear a constant relation to the location or kind of tumor.

3. Menorrhagia or metorrhagia is frequently present, especially in cases of cystic ovaries adherent to the uterus.

4. When uterine hemorrhage exists in connection with an intrapelvic tumor, and is not affected by intrauterine treatment (curettage or electricity), the tumor is probably ovarian rather than uterine. Reflex symptoms are rare with small tumors, at least in the earlier stage of their development.—*Boston Med. & Surg. Jour.*

INTRA-PELVIC DISPLACEMENT OF THE APPENDIX.—Barushy (*Press Medicale; Frauenarzt,* February 18, 1898), from an examination of 121 subjects of all ages, notes the following results: In the fœtus and newborn the deep position of the appendix was noticed in only three cases, while in twelve old women it was found eight times. Out of 100 young subjects, in 61 the tip of the appendix was found as low as the brim of the pelvis; in 32 of these the appendix actually occupied the pelvic cavity, being in close relation with the rectum, bladder, uterus, or posterior surface of the broad ligament.

INFLUENCE OF MENSTRUATION ON CHRONIC PSYCHOSES.—Näcke (*Archiv für Psychiatrie; Frauenarzt,* February 18, 1898,) analyzed 99 cases, with the purpose of recording the influence of menstruation upon insanity; these included 57 cases of paranoia, 23 of hallucinations, 12 of mania or melancholia, and 7 of idiocy. In 73 cases the patients were observed during from eight to fifteen periods, in all during not less than four. In 65 the influence of menstruation was *nil,* doubtful in 16, and certain in only 16. The results ordinarily observed were increased vasomotor pressure, restlessness, increase of hallucinations and rarely erotic impulses.

The writer infers that in general menstruation in the chronically insane differs but little from the function in healthy women, and its influence on the course of the malady is slight and inconstant.

METRORRHAGIA DUE TO LIVER DISEASE.—Dalchi (*Frauenarzt,* February 18, 1898,) affirms that the relation between hepatic affections and metorrhagia is undoubted. It is most marked in chloelithiasis. The flow becomes more profuse after the attacks of colic, and may reappear after the normal period, lasting several days. After repeated colicky seizures the menstruation becomes irregular, and may cease. If the patient has uterine disease hemorrhage occurs between the periods. Metrorrhagia is common in the early stages of cirrhosis; later, amenorrhœ is present. Hepatic tumors and icterus of septic origin may also be attended with uterine hemorrhage.

RUPTURE OF THE VAGINA DURING COITUS.—Warman (*Centralblatt für Gynäkologie,* 1897, No. 24,) considers this accident from a medico-legal standpoint. He shows that, contrary to the usual view, it is less apt to occur during rape, even in children or in women with small, rigid vagina, than in cases of violent coitus in which the female herself is under the influence of strong sexual excitement. In 26 cases analyzed by the writer there were only three in which rape was charged, and even these were doubtful. In most instances the vagina was capacious and the tissues presented no abnormality; in fact, it was impossible to discover from an examination of the parts any cause for the lesion. Unusual size of the penis did not appear to be a factor, nor did the position assumed during the act.

The explanation of the frequency of rupture during impetuous, voluntary intercourse, as compared with its rare occurrence in rape, seemed to be that in the former case the vagina was projected violently toward the penetrating organ, while in the latter it was drawn away by the muscular efforts of the victim.

Hour Glass Contraction of the Uterus.—Dr. Ulmer Sothoron, Washington, read an article with this title before the Medical and Surgical Society of the District of Columbia. We clip an abstract from the *Maryland Medical Journal* of Feb. 19, 1898.

The author believes that these cases are caused by adherent placenta acting as an obstacle to contraction over the placental site, while the rest of the organ assumes its physiological function, or the premature rupture of membranes allowing the uterus to retract at certain places and conform itself to the surface of the fetus; that in the majority of cases after passing this central contraction, we have either a partial or complete adherent placenta to deal with or a condition entirely opposite, a placenta held within by powerful contraction, the location of which is nearly always the internal os.

Meddlesome midwifery has much to do in bringing about this condition, as early rupture of the amniotic sac and abuse of ergot, but that sometimes it occurs with the best attention, and there is no way to prevent it. Active interference, he thinks, is the best measure to adopt—to empty the upper cavity and secure firm contraction. Experience has taught him that to wait in the majority of cases is in vain. In trying conditions it becomes necessary to operate and no advantage is gained by waiting.

In introducing the hand much resistance and pain should be relieved by chloroform. The cord should be the guide for the hand, the placenta carefully separated and seized with sufficient firmness to secure its following the hand. After the placenta is delivered he re-enters the uterus to be certain that neither membranes nor coagula are left behind. Then firm contraction should follow, induced by Crede's method or by ergot.

The Indications and Contraindications for Bicycle Riding in Women.—Fauquez's conclusions may be summed up as follows: Bicycle riding is recommended in cases in which there is absolute integrity of the genital organs, in anemic and chloro-anemic persons, for dyspeptics, in neurasthenia, for sterile and obese persons, for young girls in whom menstruation is not normally established, and for women who have suffered from troubles dependent upon the menopause.

In diseases of the uterus or the ovary this exercise may be advised as follows:

1. In uterine congestion.
2. In amenorrhea or suppression of menstruation connected with an arrest of development of the ovaries and of the uterus, with anemia, chloro-anemia, digestive troubles, neurasthenia, and chronic affections; with troubles resulting from physical or mental shock, cold, etc.
3. In dysmenorrhea connected with nervous troubles.
4. In congestive dysmenorrhea due to any cause capable of provoking congestion in the uterus and the ovary, such as physical or mental shock.
5. In deviation of the menses or supplementary menstruation.
6. In fibrous tumors when the hemorrhagic stage has passed.

Bicycle riding may be permitted in cases of mechanical dysmenorrhea and in membranous dysmenorrhea; in cases in which the uterus becomes displaced; in cases of chronic metritis connected with the arrest of involution of the uterus after confinement or abortion, if it is not painful and recovery has begun. In this case, however, and in cases of leucorrhea in anemic and chloro-anemic persons, and in cases in which the general condition is weak, the exercise must be taken in moderation.

Bicycle riding must be absolutely proscribed as follows:

1. In amenorrhea connected with pulmonary phthisis, cancerous affections, diabetes, organic diseases of the heart, and diseases of the kidneys, such as albuminuria.
2. In cases of metorrhagia or excessive menstruation.
3. In cases of inflammation of the uterus and its annexa, acute metritis, chronic painful metritis, hemorrhagic endometritis, purulent endometritis, leucorrhea connected with the inflammatory condition of the intrauterine mucous membrane, inflammation of the adnexa, salpingitis, oöphoritis, salpingo-oöphoritis, perimetritis, pelvic cellulitis, and pelvic abscesses.
4. In cases of pelvic hematocele and of fibrous tumors during the hemorrhagic stage.
5. In cases of inflammation of the vulva or vagina before complete recovery.—*N. Y. Med. Jour.*

FÆCAL IMPACTION.—If firm pressure be made with the finger tips against the mass of fæces, and the fingers are then slowly and carefully withdrawn, a peculiar sensation is perceived, a sensation the same as that received when the fingers smeared with grease are pressed against the opposite palm and then slowly withdrawn. To obtain this sensation, the mucous membrane of the intestine must be somewhat dry, the fæcal tumor of such a character as to dent upon pressure, and there must be gas enough present to cause the intestinal wall to resume its former position as soon as the pressure is relieved.—*Gersuny.*

PEDIATRICS.

UNDER THE CHARGE OF

T. PINCKNEY WARING, M. D.,

Superintendent Telfair Hospital, Savannah, Ga.

Suppository Doses for Children.—*Pediatrics* for May (quoting from *Médecine moderne*) calls attention to the many advantages of rectal medication in children—viz.: lesser irritability of the rectum than that of the delicate digestive organs, emotional antagonism of the child, etc. Rectal absorption is perfect, but slower than that of stomach and intestines, whence the dose may be as large as that given by the mouth and gradually increased. If the drug is dissolved in the suppository its effect is attained gradually. The following are recommended as the maximum doses of certain potent remedies for children:

Opium.—Pulvis opii may be given in suppository in doses of one sixty-sixth of a grain for each year of the child's age, and this dose may be repeated in severe cases every two hours. Toxic symptoms should be carefully watched for and the use of the remedy discontinued on their appearance. These doses are small ones, and may be increased.

Aconite shows its action in children only in large doses. We must, therefore, administer it in repeated small doses to obtain its effect. For example, we may give one to two drops of the tincture for a suppository in a year-old child, and increase the dose up to ten or twelve drops in twenty-four hours for each year of life.

Belladonna acts as an excellent sedative in cough, and exerts a very favorable influence on the muscle fibres of the intestine. We may use one-sixth of a minim of extract of belladonna in twenty-four hours, divided into three or four suppositories, for every two years of age.

Digitalis.—Powdered digitalis is with difficulty absorbed by the rectum. The tincture should, therefore, be used. The maximum dose for each year of life is four drops, divided into two suppositories.

Caffeine is usually injected subcutaneously. It may, however, be administered in a suppository with equal parts of benzoate of sodium. For example, one grain and a-half to a suppository, using two daily for each year of the child's life.

Quinine is best given in suppositories. The daily maximum dose is two to three grains and a-third, in two suppositories, for each year of life.

Antipyrine may be given in the same dose.

Salicylic acid.—Seven grains and three-quarters for each year of life, in divided doses (three or four).

Nux vomica.—One sixth of a grain for every two years, in three suppositories. Strychnine should be given only to children over ten years of age.

Mercury should only exceptionally be given *per rectum*, and then only in the form of calomel, three-quarters of a grain in a suppository for each year of life.

Iodine and its preparations are exceptionally well borne by the rectum and fully absorbed. Three grains for each year of life, in two suppositories, is the maximum dose; three-quarters of a grain if it is to be continued.

Bromides should be given in the same doses, except in severe spasm, when we may give fifteen grains for each year of life, in two suppositories rapidly following each other; for example, in laryngismus stridulus.

The foregoing is a general review of the drugs mainly used in rectal medication in children. Where tolerance has been established the doses should be increased.

PRELIMINARY OBSERVATIONS ON THE TREATMENT OF CONGENITAL DISLOCATION OF THE HIP BY THE LORENZ METHOD OF FORCIBLE CORRECTION.—Royal Whitman (*Pediatrics*, May 1st and 15th,) contributes a well-written article on this subject, with many illustrations of the method of treatment. The steps of the operation are: First, Elongation of the limb. The trochanter must be brought down to the level of Nélaton's line, or lower. This may be accomplished by preliminary traction with heavy weights, or by manual force at the time of operation; the latter means being efficient in ordinary cases. The child having been anæsthetized, a folded sheet is passed between the legs and the two ends are held above the shoulder of the side to be operated upon, or the assistant may clasp his hands about the perineum and thus fix the pelvis. One then seizes the thigh and begins a series of alternate stretchings and relaxations, using gradually increasing force for from ten to twenty minutes, or until the resistance of the tissues is entirely overcome. The leg is then as long or longer than its fellow and lies limp in an attitude of abduction. For this preliminary extension Lorenz uses a powerful machine attached to the leg by means of a band about the ankle, but I am inclined to think that the manual method is to be preferred if one does not object to the labor that it involves.

Second, Reposition. One now attempts to force the head of the femur over the ridge that represents the posterior margin of the acetabulum, and through the opening in the contracted capsule.

The thigh is flexed to about ninety degrees, in order to relax the capsule; it is then gradually and forcibly abducted under traction, to a right angle with the body, or slightly beyond even, so that the head and neck of the bone may lie in the same plane with the side of the pelvis; the thigh is then rotated slightly inward so that the head of the bone may point toward the opening in the capsule, and while traction is continued with one hand the other is pressed downward above the head of the displaced bone, and it is then lifted and drawn over the obstacle formed by the rim of the acetabulum. If this is successfully accomplished, one hears and feels a distinct shock, and the leg remains fixed in an attitude of flexion and abduction. From this semi-replacement the bone is at once displaced when the leg is abducted or extended.

Third. Acetabulum formation. One now attempts to enlarge the opening into the acetabular part of the capsule. While the head of the bone is forced against or through the opening, the thigh is forcibly rotated outward again and again, and extended to its full limit, in order that the anterior wall of the capsule, which is drawn tightly across the depression, may be distended and the capacity of the new articulation increased. When the manipulation is completed, the leg is fixed in the attitude of extreme abduction and extension by a firm spica plaster bandage extending to the knee.

The great advantage of this treatment is that it can be applied as soon as the diagnosis is made, for being free from danger and not necessitating a cutting operation or confinement to a hospital, the consent of parents is readily obtained. Also, that one has still the open operation to fall back upon, and if it is necessary, it is done under more advantageous conditions than if the Lorenz method had not been tried

ACUTE GASTRO-ENTERITIS OF CHILDREN.—Dr. E. H. Nichols of Savannah (*Pediatrics*, June 1st,) gives some observations of his 17 years' study of this disease. The writer lays special stress upon the hygienic surroundings of the child, the room, the clothes, the air and the food are first considerations, medicine is secondary.

Conclusions.—Mother's milk, if practicable.

If impossible use best artificial foods *without* milk. Condensed milk after six months is a "snare and a delusion," gives no resisting power in disease; on it children do not grow so strong, muscular or rapidly as they should.

Nightly baths, followed by *olive oil* rubbings, two drams at a time. Oil reduces fever and regulates the functions of the skin, softens it. Spiced poultices in acute period during first thirty-six hours do good.

Fluid extract hyoscyami is the best nightly opiate, one to three drops.

High fever calls for purgatives not antipyretics, bath as outlined. Few drugs are good, phenacetin, salol, bismuth, sulpho-carbolate zinc are worth trying.

Use rectum for temperature. Beef tea ordinarily no good. Gray powder or calomel and sodii bi carb. if stools are acid. If alkaline, substitute bismuth for the sodii bi carb (with calomel). Carry litmus paper to test the stools, it will pay you.

In convalescent patients sterilized or peptonized milk can be tried if source of milk is known, and good, otherwise not. There should be no exposure to sun in summer. Street car rides are "God-sends" with us. Moderate sunshine and change of air develops the red blood corpuscle, diminishes anemia and promotes appetite and circulation. Never let a child "chill off" even in summer. When frequency of discharges diminish and temperature rises in convalesence look out for broncho-pneumonia.

One-half of the fatal cases terminate in the third week. Apply ice to the head very carefully, as children do not tolerate cold long;

five minutes on, fifteen minutes off, will sometimes reduce fever and improves diarrhea.

Continued high fever and persistent vomiting, rapid wasting, with severe nervous symptoms denote death. The termination in boils, thrush, broncho-pneumonia or tuberculosis is unfavorable, and relaxed sphinchters with high temperature and contracted pupils are bad signs.

Keep the room cool, by towels tacked across windows, wet with ice water every half hour. Keep a large piece of ice in the room. Let the child lie in a small hammock between windows, you will see an improvement.

Don't fail to write instructions for parents at *each* visit.

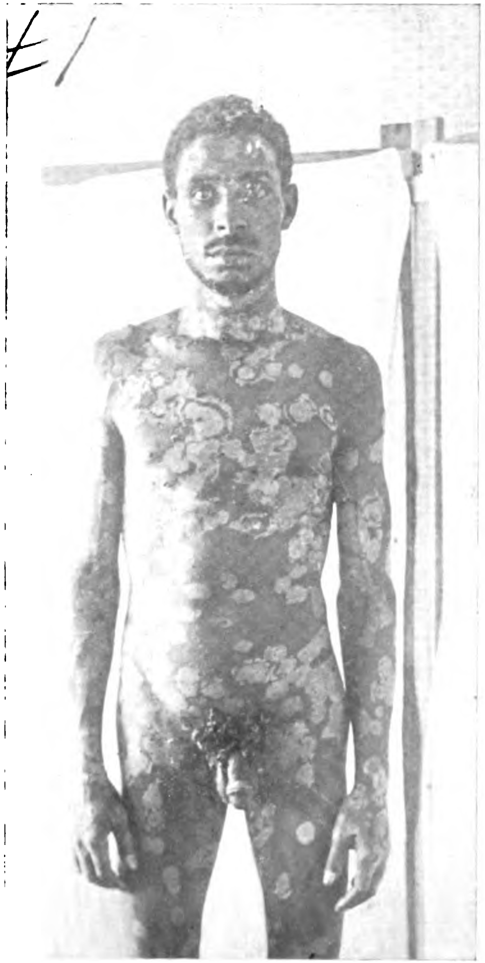
VENESECTION IN THE CURE OF DISEASES OF CHILDREN.—A. Baginsky (*Berliner Klinische Wochinschrift*, May 23, 1898) reviews again the consideration of venesection in certain conditions in children. Professor Baginsky, as head of the large Krankenhaus für Kinder in Berlin, is an authority of note in children diseases and conclusions of his article on this subject must, therefore carry great weight with the profession.

After reviewing the recent writings on this subject, he takes up the study of several cases in detail, showing clearly the advantages of timely blood-letting. The case is studied from a purely mechanical point of view. To an overloaded and laboring right heart, impeding thereby the action of the left, withdrawing a certain amount of blood plays the same mechanical role that trachiotomy or intubation plays in stenosis from diphtheria. The cases in which Professor Baginsky especially recommends it is put forth in his summary.

"To summarize," he says, "I hold that venesection is allowed and is directly indicated if through mechanical obstruction in the blood circulation paralyzation of the overfilled heart threatens."

Referring especially to conditions, such as pneumonia, where there is marked cyanosis and difficulty of breathing, with small, thready pulse, due to overfilling of the veins and diminished arterial blood pressure:

"As an indication for local blood-letting, I consider convulsions, more especially those of uraemia, where there is mechanical obstruction to circulation in the skull—if disturbance of the circulation in the brain is obvious—provided, the other conservative remedies such as warm baths with cold douches, chloroform, chloral, etc., have failed, then I believe it is peculiarly shown that we can do good by the operation of venesection.



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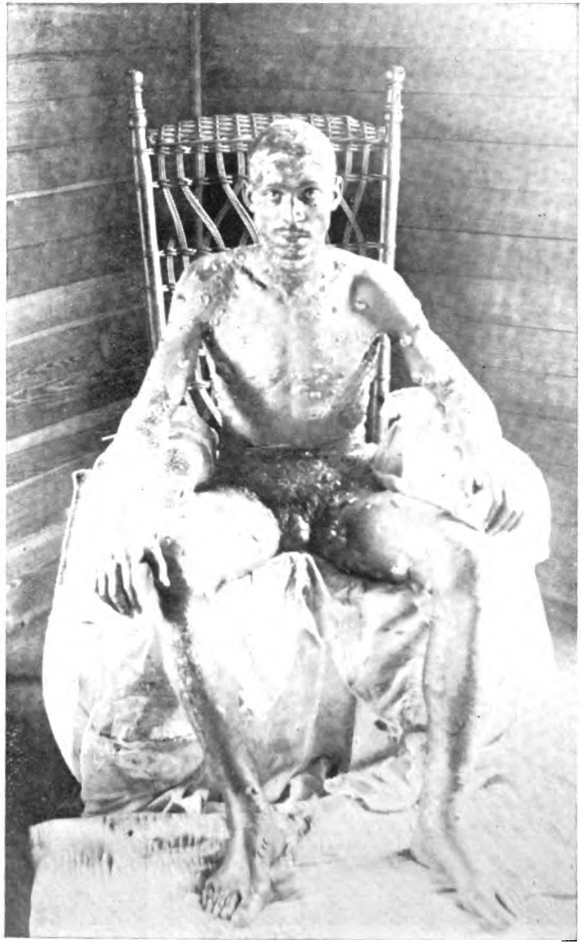

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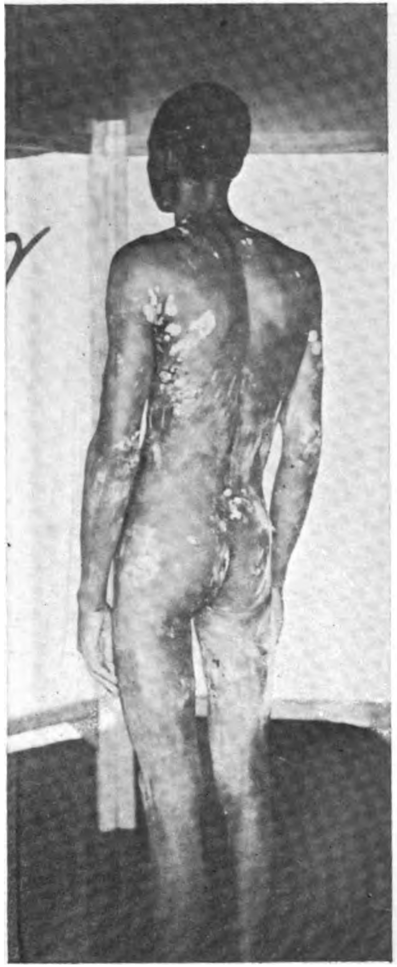

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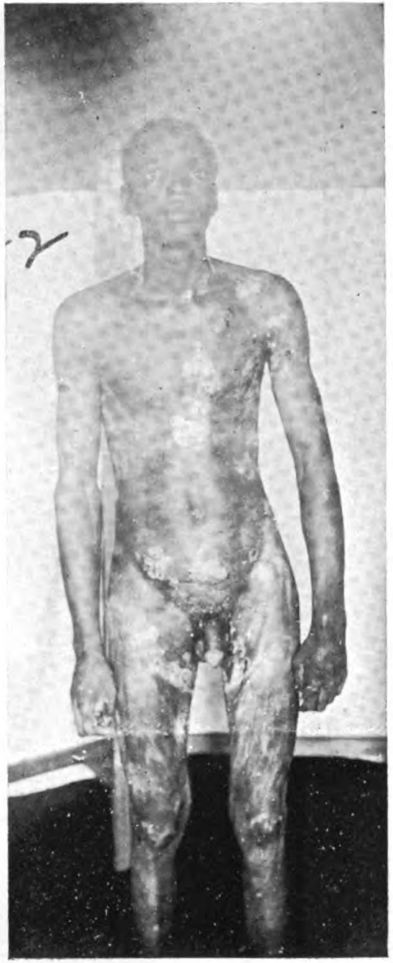

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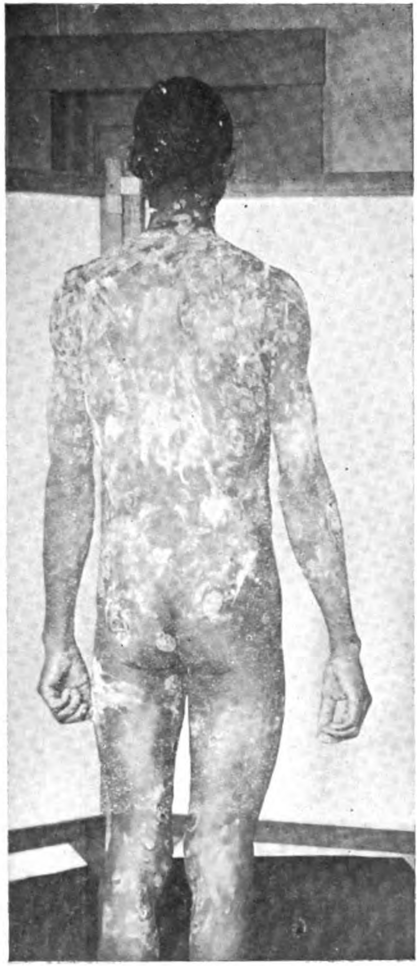

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ORIGINAL COMMUNICATIONS.

PEMPHIGUS, WITH REPORT OF THREE CASES OF PEMPHIGUS VULGARIS.*

BY R. P. IZLAR, M. D.,
House Surgeon General Hospital, Plant System of Railways,
Waycross, Ga.

Pemphigus is a very rare disease and is generally chronic in nature. It is characterized by successive eruptions of various size bullæ, varying from that of a pea to a goose-egg. (The largest bullæ noted by myself was 6 by 2½ inches.) The disease comes on without any primary inflammation; it generally terminates fatally, although the three cases under my notice recovered.

It is not my intention to go into the detailed history of this disease, as the varieties are quite numerous, but for convenience will divide the varieties in three classes:

PEMPHIGUS VULGARIS, PEMPHIGUS FOLIACIOUS, PEMPHIGUS VEGITANS.

The cases which have come under my notice have all been of the vulgaris variety. The disease generally begins with slight febrile symptoms, the temperature reaching 105½ during the eruptive stage; nausea, vomiting, etc., being prominent symptoms. In a typical case the integument shows no alteration, no sign of inflammation, the lesions are developed abruptly and consist of well-formed, fully-developed blebs of roundish outline containing clear fluid. These blebs are surrounded by apparently normal skin. There may be only two or three blebs, or a hundred, which develop at once; they occur in any part of the body, but favor those places which are protected by the clothing, but when abundant they are found on the face and scalp; they may be widely disseminated, or so close as to become confluent; they appear in successive crops, each bleb undergoing a typical evolution. It may retain its original size, or it may enlarge as the disease progresses. In two or three days after the blebs form the clear fluid changes to puriform, and if the bleb is not evacuated the exudate is gradually absorbed, it then dessicates and forms a thick brownish crust. If the bleb has ruptured, the denuded surface shows a slightly bloody secretion, which dries up in from a day to a week, the skin remaining pigmented for some time. The patient suffers from burning and itching, a feeling of pain and tension, consequently loss of sleep and prostration. The whole attack may cover a period from one month to a year; the cases under my observation were discharged cured in about five or six weeks. The mucous membrane of the nose, mouth and throat are also attacked by the disease.

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* Read before the Florida Medical Association at the meeting at Jacksonville, Fla., April 26th, 1898.

In the treatment of this trouble no reliance can be placed on the specifics; arsenic and quinine with tonics can be used with some hope of doing good. The arsenic should be used in the form of Fowler's solution, commencing with small doses and gradually increasing to tolerance. Quinine should be given in large doses, 20 to 30 grains every second or third day; to this drug I attribute the improvement. Tonics in general should be given, such as cod liver oil, malt, iron, strychnine, etc., to improve the lowered vitality of the patient. Local treatment I consider of great importance; constant baths, with the use of mild ointment, with vaseline as a base, and bismuth subnitrate, aristol and oxide of zinc as constituents. Tumenol has been used with some success. I have never tried it. It is a petroleum product and occurs as an oil and powder. Tumenol sulphone and tumenol sulphuric acid in the form of 10% paste, the oil has proven very successful.

In a disease like pemphigus, where the patient is more or less flayed, the hot bath offers a medium in which the patient can live without such anguish as constantly tortures him, and with a greater chance of recovery.

Very little true absorption of the water or the substance contained in it takes place in the bath, but a certain amount of the imbibition of the water and substances contained therein may occur. The baths should be given every day, or two or three times daily if necessary to give the patient comfort; after the bath he should be anointed with a mild paste, of the formula before mentioned, enveloped in absorbent cotton, same being held in place by roller bandages.

A few words concerning baths may be of interest: The temperature of the bath should be about 90F., the patient should be immersed from one-half to two hours, and plenty of castile soap used, so that the superficial layers of the epidermis may be cleansed, thereby favoring imbibition. The temperature of the bath should be kept up by the addition of hot water, and the room in which the patient takes his bath kept at an even warmth. A patient should not be put into a bath after a hearty meal; the best time to give the bath is in the afternoon between 3 and 6 o'clock.

I always test the secretion from the bullæ and if it is found to be neutral I give a simple hot bath, if acid I give an alkaline bath' made so by the addition of 4 oz. of bicarbonate of soda to 30 gallons of water. If alkaline I give an acid bath, made so by the addition of 1½ oz. nitric acid and an ounce of hydrochloric acid to 30 gallons of water. The diet should be highly nourishing, general hygienic measures and good ventilation should be observed. Various baths have been recommended in this disease, such as permanganate of potash, tannic acid, alum, sulphur, etc. The disease has a peculiar pungent odor, once experienced never to be forgotten. The true nature of the contagiousness of this trouble has not been demonstrated.

In the three cases treated in the General Hospital of the Plant System at Waycross, Ga., I used formaldehyde fumigation, largely to which I think my success was due. I generally used two burners twice a day; this is as long as could be comfortably borne by the patient. They soon become accustomed to its use; the first day they will allow the lamp to burn about ten minutes, by the end of the first week one to two hours. All the authorities state that this disease is due to a disturbance of the youngest epidermic strata, which is caused by a peculiar cachectic condition. Although the cause of the trouble is not known, I believe it to be due to a pathogenic microbe, not yet discovered; thus the favorable action of the formaldehyde, which is the only real germicide in use to-day.

I omitted to say that the large size bullæ had best be opened at the most dependent portion and the fluid allowed to escape.

The following cases have come under my notice:

T. G. (see case 3, Dr. Hopkins' report, page 67; see illustration No. 1), colored, age 28, nativity Georgia, was admitted to hospital October 1st, 1897. He gave the following history: Family and previous history negative, no specific history; his present illness commenced two weeks before his admission, commencing with small blisters on lower lip, which ruptured in two days, then they came out over the whole body and on mucous membrane of mouth, throat and nose. This patient was treated by Dr. J. G. Hopkins of Thomasville, Ga., prior to his admission to the hospital. Upon admission found the entire body covered with bullæ, not one inch being exempt, and denuded patches of various sizes secreting a bloody serum; pain, itching and tension being intense. During the attack his temperature ranged from 99 to 101½. He was discharged cured October 27th, 1897. His treatment while in hospital was a mercurial cathartic followed by a saline, increasing doses of Fowler's solution, large doses of quinine, liberal diet and tonics. Local treatment, alkaline baths, t.i.d., as the fluid from the bullæ was acid, and a paste composed of aristol, bismuth and zinc, was applied, the patient being enveloped in absorbent cotton from his head to his feet, the same being held in its place by roller bandages. His mouth and nose were kept clean with peroxide hydrogen, and he was subjected to formaldehyde vapor twice a day. At first he could only stand the vapor for a short space of time, but he soon became accustomed to it and would allow the lamp to burn in his room nearly all day, stating that it made him feel much more comfortable. The skin remained pigmented for three months after his discharge, and at this writing has not entirely resumed its natural color.

Second case. Adam B., colored, nativity Georgia, age 21. His family and previous history is negative. He was admitted to the General Hospital February 12th, 1898. On admission he was suffering from orchitis of the left testicle; this yielded to treatment, and on the fourth day of his admission small blebs were noticed on his lower lip, with rise of temperature, general malaise, nausea and vomiting. The bullæ became ruptured and left a raw surface, blebs were then noticed on back, chest and abdomen, only a few appearing on face. His upper limbs were then involved, also both thighs, the blebs being quite thick in axilla and groin, also around scrotum and anal region. This patient's temperature range was from 100 to 105 for three weeks; his mouth, nose and throat became involved, and he had difficulty in swallowing his food. The same treatment was instituted for this patient as for number one—alkaline baths, as secretion from blebs was acid; the formaldehyde vapor was used twice a day and found to be quite agreeable to the patient. At this writing (March 17th) the patient is thoroughly convalescent and will be discharged in four or five days cured.

Third case. W. G., colored, age 32, nativity Georgia. Admitted on February 27th with following history: Family and previous history negative. The first symptoms, burning and itching, noticed three days prior to admission. In three days blebs began to appear, first on upper lip, then over trunk and arms. The patient had a chill, followed by rise of temperature; itching and burning became intense. The blebs were at first small, but as the disease progressed they became larger. In this case were the largest blebs noticed by myself, 6x2½ inches. After the rupture of blebs, crust formed on bleeding surface very rapidly, greenish brown in color. The characteristic pungent odor in this patient was something terrible, and one could only enter his room after same had been thoroughly fumigated with formaldehyde.

Range in temperature in this case was from 99 to 103. The same treatment was followed in this case as in the previous ones, with the exception that he received a simple hot bath, the secretions being neutral. This patient is still under treatment, but thoroughly convalescent, and will be discharged in about two weeks. My success in the treatment of this disease I think is due greatly to the use of the formaldehyde vapor, as I believe the disease is due to a pathogenic microbe.

To Drs. F. H. Caldwell and C. B. Spratt I am under obligations for valuable suggestions.

Since writing the above paper Mr. G. A. B. was admitted to General Hospital with following history:

Fourth case. G. A. B., age 30, white, nativity Georgia, admitted April 15th, 1898. Family history, negative.

Previous history: Patient was vaccinated February 11th last; had slight rise of temperature about a week afterward, continuing for about a week; temperature then subsided and he felt comparatively well. Has had no venereal trouble.

Present illness: About three weeks after he was vaccinated several small blisters containing a clear fluid and about the size of a bean appeared around the vaccine scab, covering a radius of about three inches. Blisters broke spontaneously and ulcers rapidly formed in their places. Patient also noticed that when skin was scratched or bruised by accident or intent sores would rapidly form at site of injury, varying in size and of the same character as those discovered on arm, the zone of inflammation extending from one-third to one-half inch from the centre; sores itched more or less at different times, had some fever, little appetite, general malaise, with occasional headache. About two days after eruption on arm a blister appeared on inner side of right thigh, about the size of a silver quarter. After it ruptured and ulcer formed, three or four of the same size sprung up around it; these broke and coalesced, forming a large sore about 3½ by 2 inches. These were followed by a general eruption of legs, arms and shoulders. Patient has been unable to work since March 5th.

Condition on admission: Examination disclosed the above described condition. Ulcers had deeply undermined edges, patient very much distressed, temperature 99 2-5.

This patient was subjected to the same treatment as the others. He is still in the hospital, but improving daily.

Inasmuch as a diagnosis of pemphigus vulgaris was made in these cases it is but fair to state that the disease followed vaccination at various intervals in all four cases, and after further investigation we have seen fit to change our diagnosis, because in our opinion the disease was due to the vaccination, either directly or indirectly, and was not true pemphigus, as I do not think a bullus eruption following vaccination should be denominated pemphigus, although all the symptoms are identical with those of the true disease, and thus the liability to err in diagnosis. I have thought it best to report the cases as was originally intended, thereby showing the liability of mistaking a bullus eruption following vaccination for true pemphigus.

A FEW CASES FROM MY NOTE BOOK.*

By J. G. HOPKINS, M. D.
Thomasville. Ga.

In presenting the cases I give an account of to-day, I do so simply as a matter of interest, not of instruction. It is truly said, "there is nothing new under the sun," but while these cases may be familiar to many, I feel assured they will be new to some of you as they were to me.

Case 1. C. W. W., a thirty year-old white man, 5 ft. 7 in. high, weighing 165 pounds, came to me in October, 1897, and complained as he said, of having a chafe which would not heal. Upon examination, I found two fistulæ, centrally located over the lower end of the sacrum, one inch apart, and about 1-12 of an inch in diameter. I converted the two openings into one, and found a bunch of curly blonde hair about 2 to 2½ inches long, and in amount sufficient to fill a No. 10 thimble. After scarification and cauterization, I left the wound to heal by granulation.

To my surprise he returned in about a month, saying, "that place has never healed." I found the cavity well filled with new tissue, but there were several small fistulous openings instead of two as before. Out of each of these openings I drew several strands of hair similar to those first removed. I cut down again to the bone; drew a lot of hair out of the flesh from different directions and packed the wound. The wound was kept open by packing, and during every dressing since I have drawn out with my forceps a dozen or more strands of hair, which seem to occupy the tissues in every direction. The ends appeared and I drew them out without effort, as they seemed not to be attached anywhere. They just lie in the flesh, as it were, all around the sides and ends of the wound.

Again I allowed the cavity to fill, and the same result was obtained. I cut down again, and went through with the same procedure, and now, at this writing, it is open and the same condition exists. I exhibit here the hairs removed at the last three dressings, made at intervals of three or four days. I regret not being able to show the original bunch or curl; it was through mistake thrown away by my office girl.

A dermoid cyst is not a very uncommon thing, but the sex, situation and constant recurrence of the hair in this case, renders it rather unique.

Case 2. I herewith exhibit a photograph of a curious affection in a boy eight years old. The trouble began between the great and adjacent toe of the left foot. There was considerable irritation, vesication and intense itching for several days. As it seemed to be parasitic in nature, I will say that *it* started out from the seat of attack, traveling under the cuticle about half an inch a day up the foot, in a torturous, zigzag course, leaving a red raised track about one half the size of a medium goose-quill, which reminded me very much of the track of a ground-mole in the earth.

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* Read before the Georgia Medical Association, at Cumberland Island, Ga., April, 1898.

When it had reached a point over the proximal end of the metatarsal bone it bore to the left or outer side of the foot, posterior beneath the ankle, and crossed under the foot to the inner or right side. Then it traveled upward toward the instep, and at a point about one inch from the sole of the foot it disappeared. Whence it came, whither it went, or what it was I do not know. I exhibited the foot to several physicians; have talked and written to others of it, but have had no light thrown upon the subject by any one. I have searched medical literature liberally, but find no description of it anywhere. I tried to arrest its progress with tincture of iodine and nitrate of silver, but to no avail. Just when I had made up my mind to dissect for microscopic investigation, it disappeared. The affection was taken for "grounditch," a disease about which I have never found anything to read, yet it is as familiar to the people of the south as a picnic redbug or the bellow of a big bull-frog. It can in no way be confounded with the chigoe which burrows in the skin and lives only in hot climates, but which is never guilty of such freaks as was evidenced in this case.

Case 3. T. G., a mulatto, aged 28, weight——, height——, an employee of the Plant System of Railways. Personal history good. Was never sick, except with slight attack of influenza in December, 1896. Was seen first on Sept. 20th, 1897. He had fever about 24 hours; temperature 102; pulse 128; had a few bullæ on lips, face, wrists and shins. I diagnosed pemphigus, and began a quinine and arsenic treatment; local applications of boric acid; opened the bowels and gave morphine to relieve pain and general discomfort experienced. The bullæ appeared thick and fast, varying in dimensions from the size of a filbert to that of a walnut, and required but a few hours to reach apparent full growth. I punctured them at each visit, giving exit to the fluid contents at the most dependent point, leaving the cuticle otherwise intact for protection. In a few days almost the entire cuticle had been separated from the cutis. The scalp, palms and the mucous membranes of the nose, mouth and throat were extensively involved; deglutition difficult and painful; liquid diet a necessity.

On September 1st he was carried on a cot by rail to the Plant System General Hospital at Waycross, a hospital second to none in all of its appointments, and capacity of medical staff. At my request the following letter was written by House Surgeon, R. P. Izlar:

General Hospital, Waycross, Ga., March 23d, 1898.

Dr. Frank H. Caldwell,
Supt. and Chief Surgeon, Waycross, Ga.

HISTORY OF THE CASE, AS PER REQUEST:

Dear Doctor:—In reply to yours of the 15th, find below information requested. Case of Pemphigus Vulgaris. T. G., colored, age

28; brakeman; nativity, Georgia. He was admitted to the hospital Oct. 1st, 1897. Family history negative; previous history negative. No venereal history. Present illness commenced two weeks prior to admission with small blister on lower lip, which ruptured in two days, they then came out over the whole body and mucous membrane of nose and throat. Examination upon admission, we found entire body covered with bullæ, not one inch exempted, and also denuded patches varying in size. The symptoms were those of pain, itching and fever. During the attack his temperature range was from 99 F. to 101½ F. He was discharged cured Oct. 27th 1897. His treatment while in hospital: Mercurial cathartic followed by saline liq. potass. arsenitas in increasing doses. Large doses of quinia sulph.; liquid diet. Patches, local treatment. Alkaline baths, and a paste compound of aristol. bismuth, oxide of zinc and vaseline. The patient was enveloped in absorbent cotton from head to feet; the same being held in place by rolled bandages. His mouth and nose were kept clean with peroxide hydrogen, and he was subjected to Formaldehyde fumigation or vapor t. i. d. At first he could only stand the vapor for a short space of time, but he soon became accustomed to it and would allow the lamp to remain in his room nearly all day; said it made him feel better. The secretion from the bullæ being acid, the patient was given alkaline baths t. i. d. The skin remained pigmented for three months after, and at this writing has not entirely resumed its natural color.

Very truly,
(Signed) R. P. Izlar,
House Surgeon.

I present the history of this case because of its rarety, extremity and result. I do not believe that medicines are of benefit in such cases, except so far as they insure comfort. I herewith exhibit photographs showing stages of the disease (see illustrations No. —) and present condition of the subject, now seven months after the attack and about six months since he was discharged cured and resumed his duties on the railroad.

* * *

Winkler's Reaction: A New Test for Free Hydrochloric Acid in the Stomach Contents.—A small quantity of the normal filtered stomach contents, to which a few grains of dextrose has been added, is poured out on a clean porcelain plate; add a few drops of a solution of alphanaphthol, and heat gently. A violet-blue color is developed, which rapidly changes to inkish black. Or a standard test solution may be kept on hand, made by adding to a five per cent. alcoholic solution of naphthol a one-half to one per cent. solution of grape sugar. As in the Günzburg and the Boas tests, so also in this one there is a negative reaction if, instead of free hydrochloric acid, sulphuric or phosphoric acid is present.—*Centralblatt für innere Medicin.*

REPORT OF A CASE OF ACUTE GLAUCOMA, COMPLICATED BY CATARACTOUS FORMATION OF LENS AND ANTERIOR DISLOCATION OF SAME—COMPLETE RECOVERY WITHOUT OPERATIVE INTERFERENCE.*

BY S. POTTS EAGLETON, M. D.,
Late Assistant Surgeon to Will's Eye Hospital, Philadelphia, and Quizmaster on Opthalmology at Med. Dept. of Univ. of Pa.; Opthalmic Surgeon to Marion County Surgical Hospital, Ocala, Florida.

W. L. D., age 22 years, male, farmer by occupation, consulted me on December 13th, 1897, for a violent inflammation and pain in his left eye, with the following meagre history: One year ago, while traveling en route from Georgia to Florida in a wagon train, was constantly exposed to the inclemency of the weather; caught "cold," which settled in both eyes, producing an attack of acute catarrhal conjunctivitis, from which he never fully recovered, relapses being frequent.

A few months prior, first noticed failing vision in O. S., associated with prodromal symptoms of acute glaucoma, without, however, the usual symptom of vomiting. The glaucomatous attacks were at first of short duration, always associated with severe pain, but increasing in violence and more frequent in occurrence as the disease progressed. When the patient first came under my notice his suffering was intense, the pain radiating from the eye along the first and second branches of the trigeminus, involving the head, ears and teeth, associated with excessive photophobia and complete collapse of the nervous system. Examination showed lids swollen, conjunctiva, both palpebral and bulbar, deeply injected, marked ciliary zone, cornea smoky, aqueous humor probably cloudy, pupil irregularly dilated, iris discolored and bound down by posterior synechiæ to the capsule of a cataractous lens which was dislocated upwards and forwards into the anterior chamber; cyclitis also present in a great degree, facial expression drawn from the severe and prolonged suffering. The right eye was also becoming involved with premonitory symptoms of glaucoma.

The exciting cause of the present attack was probably due to the instillation of atropia, which agent had been used for several days prior to the time he came under my notice.

Tension of O. S. was + 3, while that of O. D. was + 1 as per Bowman's method of indicating intra-ocular tension, and which is now almost universally adopted.

Patient was at once ordered to bed, blister applied to left temple and efforts made to reduce the increased intra-ocular tension and counteract the influence of the atropia by instilling eserine salicyl. gr. ss. to f. ℥i. As a tonic and for its antiphlogistic action a mixture of quinine and turpentine was also prescribed. Morphia and chloral were given at night to relieve the excessive nervousness and produce sleep. On the day following patient was no better, suffering intensely. As there was only a slight amelioration of the symtpoms on the afternoon of December 15th preparations were made for operative interference on the following morning. Fortunately, however, at my next visit patient's condition showed marked improvement, pain was decidedly less and nervous system under better control; tension + 2. The frequency of the instillations of eserine was increased. From this time on patient made a rapid and uninterrupted recovery.

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* Read before the Marion County Medical Society, July 4th, 1898.

The glaucomatous manifestations in the right eye subsided and the eye regained its normal tone.

Patient allowed to return to work on December 31st and at present writing has not lost a day's labor, nor has there been any return of the glaucoma.

At my last examination a few days ago tension was normal, the glaucomatous lens was nearly absorbed, only a small portion remaining at upper portion of pupillary area, firmly adherent to the iris; vision at the present time is 20/70.

The case is one of interest not only on account of its complications but also to demonstrate the advantage of conservative treatment in lieu of operative interference whenever possible. Contra-indications to an iridectory were as follows:

1st. Severe inflammation of eye, especially involving the ciliary region.

2d. The dislocated and cataractous lens, firmly adherent by its capsule to the irregularly dilated iris.

3d. The probability of exciting a true attack of glaucoma in the fellow eye, which was already manifesting symptoms of the same, it being a well known fact that an iridectomy for acute glaucoma frequently produces a similar attack in the good eye; especially is this so when the eye is already predisposed to such an attack.

As a precautionary measure it is well to instill eserine into the sound eye prior to an operation for glaucoma, though the myotic does not always act as a specific in preventing an attack in these cases.

ETHYL CHLORIDE AS A LOCAL ANÆSTHETIC.

BY WM. Z. HOLLIDAY, M. D., AUGUSTA, GA.
Ex-President Augusta Academy of Medicine, Instructor Materia Medica Medical College of Georgia, Member American Medical Association.

Considered from the stand-point of minor surgery, all physicians are also surgeons. Granting this, we must admit, that a consideration of local anæsthesia at this time will not be out of place. Until the introduction of cocaine a few years ago, there was no very satisfactory agent in use for this purpose. Cocaine proved a great blessing, but the range of its usefulness is more or less restricted by ts toxic properties, and the necessity of applying it subcutaneously, when used on other than mucous surfaces. It is also a fact that the introduction of the hypodermic needle which carries the cocaine is often quite as objectionable as the introduction of the point of a bistoury. Most of the other drugs used for this purpose are open to the same objections as cocaine. I consider, therefore, that the introduction of a remedy capable of overcoming these objections is a distinct advance in therapeutics, In Ethyl Chloride wh have an agent capable of overcoming most, if not all, the objections to other drugs we have been using for the production of local anæsthesia. Ethyl Chloride is a light, transparent liquid, having a specific gravity of .902, and is said to boil at 50 F. As prepared for market it is put up in hermetically sealed glass tubes, or more recently and certainly more conveniently, in tubes closed at the point with a spring cap, from which the fluid is obtained by spraying on to the point to be anæsthetized. It is readily vaporized by the heat of the hand. As it is thus vaporized is is projected from the container in the form of a fine spray, which when brought in contact with the surface of the body produces such a rapid reduction of temperature at that point that there is an actual production of ice on the surface. This rapid cooling is at first accompanied by a sense of burning, which, however, soon passes away and a thin coating of ice on the spot is evidence of the anæsthesia. If there is much surface to be anæsthetized the process can be hastened by fanning the spot with a palm leaf or other fan while the fluid is being sprayed on. When the surface is covered with the thin coat of ice you can proceed to operate, and if the operation is a superficial one, in a perfectly painless manner. For boils, abscesses and a great many wounds of accidental origin, this surface application is sufficient. If, however, there is a deeper cut to be made it will require an additional application in the bottom of the incision when a depth of about a quarter of an inch has been reached. This can be repeated as many times as is necessary with only slight inconvenience. For minor surgical operations your patient will object less to this procedure than to being punctured with an hypodermic needle in an inflamed tissue where the pain and tension is already as much punishment as the flesh is willing to endure. The anæsthesia produced by this drug is transient, passing away in from half a minute to two minutes after the spray has been discontinued. In all my experience no unpleasant symptoms have followed its use. I have great confidence in the possibilities of Ethyl Chloride, and give it as my opinion that under its influence, many major operations, especially in conditions of shock and collapse, and will be done with a lowered rate of mortality. This is not a new drug and I do not bring it before you as such, but rather with the hope of developing the advantages of a very valuable remedy the virtues of which have been long overlooked. I have found it so far superior to all other agents of its class that I have, for some time, used it almost exclusively. Finally, I will give you a report of a few cases from my note-book, then leave you to form your own conclusions.

Case 1. F. A. White, male, aet. about 50. Carbuncle on nape of neck requiring incision. Used one of the small hermetically sealed tubes, the quantity being small and a considerable portion of that was wasted by not understanding how to use it. An incision two inches long and half an inch deep was made, the patient experienca considerable discomfort but no such pain as in the absence of an anæsthetic. A week later it was necessary to make a second incision, which was done under the influence of the same supply and with much more satisfactory result.

Case 2. Mulatto, man, aet. 40, employed to work in slaughter pen, presented himself at my office with an incised wound three inches long at the base of his thumb, which was made by the teeth of an angry hog. This wound was cleaned, sutured and dressed without any pain to the patient.

Case 3. White male, aet. 26, chancroid and phymosis with long and enormously swollen prepuce; patient in bed with temp. 105; sepsis from discharges retained under prepuce. Anæsthesia was produced on a line along the top of the prepuce, then with a pair of scissors this was laid open back to the corona glandis. Owing to the very great suppuration of the parts and the bad condition of the patient, the operation was discontinued, the parts being thoroughly drained were cleansed and an antiseptic dressing was applied. The symptoms of sepsis rapidly disappeared and there was soon a marked improvement in the local condition. In five days the operation of circumcision was completed, under the influence of the Ethyl Chloride spray, and in a perfectly painless manner. It is only fair to say that in this case two tubes were used, the spray being applied on one side by myself, on the other by my assistant. This was done because one would hardly produce an impression lasting long enough to go all around and continue until the operation was complete. In this case the patient made no complaint and assured me at the conclusion, that he had suffered no pain at all.

Case 4. Boiler-maker, white, aet. 38; finger amputated by drill. Stump was reamputated, sutured and dressed, the patient sitting in my office chair and felt only the slightest sense of pain.

Case 5. J. P., white male, aet. 42, has had an attack of chronic malarial fever lasting him several months. Has also hœmorrhoids. These are external and present the form of an enormous sessile mass extending entirely around the anus. Operation done with clamp and cautery and without pain. This operation was done five months ago and the patient recently told me, in my office, that he did not understand how I could have cut him so much without giving him pain, thus showing that the attempt to keep the cautery out of his sight as well as the local anæsthetic had been successful. He is to this day entirely ignorant of the fact that a part of his anal tissues have been removed by the hot instrument.

Case 6. White man, aet. 54; multiple abscesses along the side of tibia. These were cut on more than one occasion, some of them were deep and required the second application at the bottom of the first incision before the pus was reached. In these cases the patient felt slight pain.

Case 7. T. J., commercial traveler; hydrocele of the cord. Operation after use of Ethyl Chloride spray. His own words were "I did not feel the slightest pain."

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A CASE OF DOUBLE UTERUS AND TWO PREGNANCIES.*

BY FRANCIS D. KENDALL, M. D.,
Columbia, S. C.

I was called to see Mrs. S., December 28th, 1888—primipara, aged 22. She had been married two years; first menstruated at the age of twelve years, and has been regular since, but with a good deal of pain. Complained, also, that something seemed to prevent the flow from coming out. At the time I was called to see her she was suffering from pain in the lower part of the abdomen. She said also that she suffered pain during coitus. I told her an examination would be necessary to ascertain her exact condition, to which she consented. That afternoon, December 28th, I made an examination and found a band of cicatricial tissue growing just in front of the uterus, about one-eighth of an inch in thickness by three-fourths of an inch in width, and a little over an inch in length. I could not get a view of the uterus at all. I proposed to remove the band of tissue, and, after consulting with her husband, she consented. On January 1st, 1889, I inserted Brewer's bivalve speculum and injected 20 min. of a 4% solution of muriate of cocaine in each end of the growth, which was attached anteriorly and posteriorly in the vagina. I clipped it off with a pair of long-handle scissors, without pain and very little hemorrhage. Imagine my surprise to see a double os. On introducing a uterine sound into each os they pointed to each thigh respectively. The same thing occurred on introducing two sounds—that is, the points of the sounds turned one towards each thigh. I used an ointment of 1 dr. of boracic acid to 1 oz. of vaseline on absorbent cotton and applied it to the wound in the vagina, which healed without trouble. On December 25th, 1889, I was called to Mrs. S. in labor, and at 4:30 p. m. I delivered her of a girl weighing 10 to 12 pounds. Mrs. S. recovered without accident. I examined her shortly afterwards to ascertain in which division of the uterus the child had been and found it to be the left. She was, also, much larger on the left side during her pregnancy. She menstruated on January 19th, just six weeks after the birth of the child, and continued regularly. She did not menstruate during this pregnancy. I examined her on January 20th, 1889, during her menstrual period, and found the discharge to come from the right os. The left os was red and pouting, if I may use the expression. Now, is it not rather strange that she did not menstruate during her pregnancy, as she did so soon after the birth of her child, and only from one side of the uterus? Mrs. S. notified me on August 20th, 1893, that she was again pregnant, and that her menses had not stopped, that she menstruated regularly, but that the flow was very little each month, nothing to compare with her usual period. I examined her to be sure she was pregnant, and requested that she let me know if her menses came on again, which she did on the 30th day of August. I examined her and found a rather scant bloody mucus discharge coming from the right oss, which continued for four days, and each month regularly until she was delivered, on January 31st, 1894, of a nine-pound boy, at 3:30 o'clock a. m., natural labor. She menstruated on March 15th, 1895, and on examination found it came from the right os alone, as before. Mrs. S. has menstruated regularly since, nursed both children until they were 16 months old, and has not had a day's sickness since the birth of the first child.

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* Read before the South Carolina State Medical Society, 1898.

I would like the views of the gentlemen present, and would be glad to know if any of them have had a similar case in their practice. I have seen nothing resembling this case in the literature at my disposal.

TREATMENT OF SNAKE-BITE.

By E. L. PATTERSON, M. D.,
Barnwell, S. C.

Although there is said to be twenty-seven species of poisonous serpents in America, the rattlesnake is the only one in this region the bite of which is considered fatal. Next to this snake the water moccasin is perhaps the most poisonous, though a fatal termination from its bite is infrequent. Investigating the history of the late war, there is no record of a single case of snake-bite, which is a remarkable fact when we consider the vast number of soldiers who passed through the most unfrequented forests, where serpents of every class abound. Experiments have shown that the poison of the most deadly serpent introduced into the stomachs of living animals produce no serious effect. Applied to the surface of the skin it is harmless, unless there is an abrasion. No remedy has been discovered which has proven a specific. The most powerful stimulants are advocated by the best authorities—hot brandy, or whisky and water, and ammonia are the most popular remedies. In consequence of the prostration, an extraordinary quantity of such stimulants are tolerated. Dr. Mueller, of Victoria, on the theory that the action of snake venum is dynamic and not destructive of tissue, and that its sole effect is to produce suspension of the motor and vasomotor nerve centres, has used as an antidote strychnia, whose effect is to increase the functional activity of those centres. He applies this remedy by subcutaneous injections till slight evidences of strychnia action appear. He declares this treatment successful in a multitude of cases, and now in general use in Australia, though experiments in London and Calcutta on cobra-bitten dogs have not shown the desirable results.

I was summoned hastily to see D. P., a boy of 15, who had been bitten by a large mocassin on the back of the hand. The arm just above the wrist had been tightly ligated immediately after the wound was inflicted, and although I saw him in 15 or 20 minutes after he had received the bite there was already considerable swelling. The usual home remedies had been resorted to, chief among which was whisky in full doses. I was in the act of giving a subcutaneous injection of strychnia and morphia when it occurred to me that this was perhaps unnecessary, as death from the bite of this snake is rarely ever fatal, though always producing alarming and painful symptoms. With a bistoury I incised the wound and scarified the surrounding parts. The veins were made very tense and prominent by the presence of the ligature. Each vein in sight was then freely opened and the hand immersed in a warm carbolized solution until the bleeding had ceased; the wounds were then thoroughly cupped and the ligature removed. Iodoform was dusted over the wounds and a piece of absorbent cotton laid over the parts and held in place by a bandage. There was no further treatment and the patient was out the next day.

APPENDICITIS—A POSSIBLE CAUSE—THE USE OF THE LIGATURE—IS IT NECESSARY?*

By WM. T. OPPENHIMER, M. D.,
President of City Board of Health, Richmond, Va.

The subject for the evening's discussion, as announced in the notices, was appendicitis. I do not wish to take in such a vast subject, only to confine myself to the cause, the results of inflammation and certain procedures for relief. I have often been twitted for pressing the theory that so many diseases were due to the accumulation of gas in the intestinal canal. Possibly 50 per cent. of all cases of sickness is due to some irregularity, imprudence or defect in digestion. The question is asked, Why do we hear more of appendicitis now than formerly? I would answer that the disease was not so well known, and that possibly as much existed then as now, but under different names, e. g., many cases formerly diagnosed as peritonitis were fulminant appendicitis. But, nevertheless, I claim the disease is more frequent now. Possibly the cause may lie in improper food. Bread is the most common food, and the common baking powder used has caused more and different varieties of indigestion than formerly, probably affecting the digestive juices. I bring this out, although I have no statistics to prove it, for I believe that appendicitis is nothing more than indigestion in the appendix.

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* Read before the Richmond Academy of Medicine and Surgery, May 24, 1898.

Authorities on the subject refer to the blood vessels, sex, etc., when naming the causes. The point I wish to make is that it is the result always of an accumulation of gas, never of plugging of the artery or sloughing. I believe that the capillaries are so numerous that even with blocking of the artery collateral circulation is soon established.

In every case of appendicitis the patient is more or less dyspeptic. It may even be his first attack. The resulting gas accumulating in the cecum, the appendix becomes blown up and its orifice is blocked. In recurrent cases, the orifice may be more and more narrowed with each succeeding attack, until it is finally occluded, the circulation is cut off entirely if the distance is great, and sloughing results.

In forcing gas into the cecum, the appendix is more distended at its apex than elsewhere, and least at its orifice, because of the presence of circular muscular fibres. Constant pumping in of gas may result in partial closure only, and adhesions may form; but when there is complete closure, the fulminant variety is produced, and, going on, protective abscesses. This statement regarding closure in the fulminating form must be so, because where the appendix is filled with pus, if it were not entirely sealed there would be drainage into the cecum, and it would be recurrent. To attest my belief in it, I have performed appendicitis without using the ligature. Of course, in the recurrent form, where the operation is done between the attacks, the ligature should always be applied. The danger from it is that it might not be applied near enough to the cecum, leaving pus which may result in septicemia, peritonitis, etc. In safe hands, the operation is less dangerous without than with the ligature.

The points I have stated are altogether different from those heretofore brought forward, and I would like for the gentlemen present to think of them.

Why do more men than women suffer from appendicitis? The reason given by an authority is that in the latter sex the appendicular circulation is reinforced by a branch from the ovarian artery. I contend that it is because the circular muscular fibres around the orifice of the appendix are stronger in the male, the tension is greater and, therefore, closure is more likely. I do not deny that the circulation in women may supply more blood.

The points brought out have great bearing on the treatment, namely, food. Indigestion of all forms should have the closest attention, for the first seizure may bring on an attack of appendicitis.

REPORT OF THE CUBAN COMMISSION ON YELLOW FEVER TO THE MISSISSIPPI STATE BOARD OF HEALTH.*

BY DR. HARRIS A. GRANT, DR. J. R. TACKETT AND DR. H. M. FOLKES.

Modes of dissemination exist in many articles of daily use and are principally made up of household goods, as bedding, cloth or hair furniture, carpets, curtains, etc., wearing apparel, edibles, as coffee, sugar, or tea, in bags or sacks, canvas hams, etc., in fact, any material of soft or porous nature. We doubt if vegetables and fruits ever serve as fomites, but in absence of proof of their harmfulness we consider it advisable to interdict their shipment. It will be observed that infected points occur only along lines of travel or by direct communication. This is worthy of note in connection with its prevention by quarantine. Concerning its spread by mail, we doubt if this ever occurs in letters, if properly fumigated. With papers or books freshly printed and subjected to infection before becoming dry, we believe there may exist a possible source of infection.

The period of incubation varies from twenty-four hours, the shortest known, to fourteen days, the longest known, with an average of three days.

Racial or residential characteristics modifying the disease exist most markedly among negroes and people living in a hot climate. As a rule, negroes have the fever in mild form often difficult of diagnosis.

Those coming from a colder clime are more susceptible to the fever and show a higher mortality than the local people among whom the disease first appears.

The onset is usually at night, though occasionally it makes its appearance during the day.

A chill occurs in ninety per cent. of the cases; sometimes pronounced, at others so light as not to be noticed.

The temperature is usually but not always at its height at the cessation of the chill. As a general thing the temperature does not range high, not often being over 104°, though sometimes it has been seen as high as 107°. It usually ranges about 103° or 103.5°. The fever begins to abate from the beginning as a rule, and in from twelve to seventy-two hours the patient is usually free from fever, though many cases will show about a half degree rise of temperature, or perhaps the same amount subnormal, during the stage of so-called calm, which lasts from twelve to forty-eight hours, and is then in a majority of cases followed by a fever of remittent type, lasting commonly four or five days. This is in a typical case of yellow fever; but it happens very often that the patient becomes secondarily infected, and then falls into a typhoid condition which may last anywhere from twenty to ninety days. This is the condition referred to by the older physicians as running into typhoid fever, but with whose pathology we are now better acquainted and which we recognize as septic poisoning. Malaria must be remembered in the cases of long-continued fever. In convalescence we see the temperature nearly always below normal to the extent of a degree or a degree and a half, which condition exists for a week or ten days, being most pronounced on rising in the morning.

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* Abstract from report of Cuban Commission (from The Journal of the Mississippi State Medical Association), taken from the *New York Medical Journal.*

The pulse must be closely observed. At the onset of the attack it is fast in proportion to the fever. It occasionally happens that as early as thirty-six hours after the beginning of the fever it will begin to slow down and lose its ratio to the temperature, but as a rule it is in the second rise of the fever that we see it steadily slowing or remaining stationary, while the temperature rises or remains normal. The pulse sometimes drops as low as thirty-six to the minute, but fifty-six is the average, which continues during the remittent stage and on into convalescence for many days, when it begins to slowly rise until it reaches the normal. The tone of the pulse throughout is markedly gaseous.

The facial expression of a yellow fever patient is worthy of close and careful study. At first the face is flushed, the eyes bright, expression quick and restless; this appearance changes into a look of worry, anxiety, and dread, giving the patient a haggard expression. At times the face is remarkable for its dull, apathetic appearance. The eyes are at first bright, watery, glistening with a kind of fleety, wavy movement. Sclerotic congestion soon follows, to which is quickly added an icteroid tinge, soonest and best observed by lifting the lids. This can be found as early as ten or twelve hours after the onset. The congested condition remains a marked feature on through convalescence. The eyelashes are frequently matted, and this, like the congestion, lingers long.

Epistaxis is a frequent and at times a dangerous symptom.

The skin is a factor of great moment in the treatment of yellow fever, and as such deserves careful attention and observation. At the onset usually, except in fulminating cases, it shows a tendency to act nicely, which will continue if proper care is exercised. Diaphoresis continues, and during the fever, through the stage of convalescence, and during the remittent period, is a frequent accompaniment of convalescence, and in children must be closely observed at night, when at times it may become so excessive as to prostrate the little patient. The skin as a general thing, though not always, assumes a yellowish color, most noticeable in the scalp and ears, and best brought out by pressure upon the parts to be observed. Some cases, only the serious ones, however, become extremely yellow, deepening into a bronze. It is also in this class of cases that ecchymotic spots most frequently make their appearance, especially noticeable in the dependent parts of the body, as the back of the neck, shoulders, and calves. Not more than twenty per cent. of those cases seen by us in Havana had a decided yellow color. In patients kept in a close room or under many blankets there is to be found a distinct and characteristic odor, differing from the smell of malarial or any other fever, and being almost indescribable as to its exact nature, though its closest resemblance is to be found in a bed of young mice.

Pain is one of the most pronounced symptoms. It occurs in the head, usually in the region of the temples, sometimes on the sides and top, is very severe, and causes patients much suffering. Pain in the lumbar region is an unfailing accompaniment, and during the first two or three days causes the patient more trouble, perhaps, than any other symptom. The pains in the calves of the legs and thighs are severe but endurable, and are almost unfailing symptoms. Headache during convalescence is a feature so striking as to almost be pathognomonic. A sense of constriction around the body at the edge of the ribs is an occasional symptom and, while not exactly pain, should be classed with it. In connection with this, also, attention is called to a sense of oppression, at times approaching dyspnœa, which is marked in some cases at the height of the fever.

The tongue is usually clean at first, but in a few hours becomes coated, red on edge and tip, slightly pointed, sometimes broad and thick, but never a malarial tongue, though at times indentations are observed; these indicate a mixed infection. The coat is at times so thick as to feel like cotton. When it clears up it usually does so in patches. There is a waviness or tremulousness about it which is characteristic. Beneath the tongue there is, as a rule, a marked congestion of the vessels. It sometimes bleeds, hemorrhage usually coming from the edges. The gums soon become congested, swollen, spongy, and bleed on pressure. They present an appearance strikingly simulating ptyalism. The mouth is frequently sore after a few days' illness and along the edges of the teeth becomes very much indurated and swollen. The breath in these cases is quite offensive. After a long-continued illness, when the patient has lapsed into a typhoid state, the breath is extremely fœtid, reminding one strongly of the odor of a confinement.

The stomach is sore and tender. Frequently the patient is nauseated at the onset of fever, and the first vomit consists of undigested food, if there is any in the stomach. If there is none, then it is a thick, glairy mucus. Should there be a malarial element in the patient, there is likely to be a vomiting of bile also.

There is tenderness over the bowels, which are at times disturbed, but, as a rule, no tympanites. Obstinate constipation is the rule. The stools, when the bowels do move, are black or grayish-black in color.

The kidneys will show in many instances a tendency toward suppression of urine which is usually scanty, high-colored, in nearly all cases albuminous, containing anywhere from traces to seventy-five per cent. A marked feature is the fact that with low temperatures there is to be found in many cases only the faintest trace of albumin and then only by the closest search; in some cases the urine will contain blood, but only rarely. Phosphates and mucus have been found in patients who have old cystic troubles, and these should be remembered, as also should cases of gonorrhœa which may exist unsuspected. Retention is an occasional feature to be borne in mind.

The appetite is of no moment at the first onset of the disease, but gives rise to a gnawing pain during the stage of calm. The appetite of convalescence is great and must be closely guarded. Thirst is not marked as a rule.

There is marked insomnia during the first few nights, due in a large measure to the pain in the back and head. Restlessness is such a pronounced feature and symptom as to call for the closest watchfulness on the part of the nurse.

The nervous system is usually profoundly depressed.

Hemorrhage from the uterus is a frequent symptom in women, especially among young girls about puberty, who nearly always prove bad cases.

Yellow fever complications will be classed under one head, as presenting features which, while characteristic of the disease, are not always to be insisted upon before making a diagnosis. One of the most frequent is black vomit, so called from its usual dark wine-colored appearance, with little particles resembling dirty dish-water. This has been in the past a most dreaded symptom, but the records prove that about forty per cent. of those having this symptom died under the old treatment and not more than twenty-five per cent. under the new. A distinctive feature of this vomit is its projectile character.

Suppression of urine is, without doubt, the gravest complication met with in yellow fever. Nearly eighty-eight per cent. of those having it die. Let us remember that retention is not suppression, and every case should be closely examined to make the distinction, which should be easy, as retention is usually an early symptom and the patient does not present that appearance of grave illness which is so prominent in suppression.

Inflammation of the parotid and submaxillary glands is a rather frequent sequela of the fever, in children especially

Convulsions occur, though rarely, mostly due to high temperature, but at times dependent upon the poison in the blood or the gastric disturbances.

Cessation of diaphoresis sometimes occurs, and, as it throws more work on an already overburdened kidney, it must be promptly met.

Septic conditions must be kept in mind as an occasional feature.

Under this heading will also be mentioned subacute or typical cases occurring during epidemics. These cases start out with a pronounced pain in some region of the body, or with a continuous attack of almost uncontrollable vomiting. Though the temperature rarely exceeds 99.5°, it sometimes does not rise until the other symptoms have been under observation for two or three days; the pulse slows down to 60, perhaps, the eyes are injected, the bowels constipated, the urine contains faint traces of albumin, and the stools are characteristically black. A sore mouth and swollen gums frequently add to the other features of the disease. The occurrence of these cases among immunes shows the influence of the poison.

Diagnostic Findings of Yellow Fever post mortem.—The skin and sclerotics markedly icteric; usually early ecchymotic spots on the back of the neck, shoulders and lumbar regions, thighs, calves of the legs, and the ears. The abdomen is usually dry, sometimes a little fluid is present; the liver is contracted away from the ribs, of a boxwood color, bloodless and friable. The gall bladder is contracted, usually empty, but sometimes containing a thick, tarry fluid. The spleen is normal in size and color. The kidneys are normal, sometimes showing signs of recent acute inflammation. The stomach is usually anæmic, generally shows exfoliated spots where hæmorrhages have occurred, and frequently contains black vomit. The intestines generally contain a pasty colored material like the stools, only not so black. The mucous membrane of the whole alimentary tract shows the most decided effects of the poison. The heart often shows traces of fatty degeneration.

Treatment demands a sober, intelligent, honest, wideawake nurse, one who will take interest in the case and further your every effort; very little medicine is needed, but chiefly management; a household or bulb syringe is required. Should the patient be taken before complete digestion of a heavy meal, empty the stomach either by hot soda water in large quantities or preferably by a stomach siphon. Give ten grains each of calomel and soda, divided into two doses to be given three hours apart, followed by an enema or saline cathartic in six or eight hours, if necessary. Put the patient to bed, give a hot mustard foot bath, and cover with one blanket next to the body. At night put on enough covering to keep the patient from becoming chilled. If the patient is in pain, or the temperature too high, give one five-grain dose of phenacetine or acetanilide and repeat once or twice if required. In a malarial patient give twenty grains of quinine in solution, and if rejected, give another dose at once. Keep the patient in a gentle perspiration by warm drinks of orange-leaf tea, flaxseed tea, etc. The use of Stafford mineral water from the start will prove of great service in combating a possible tendency toward suppression. The insomnia, being largely due to the back pain, can be much relieved by the following:

℞	Oil of mustard	10 minims,
	Chloroform	60 "
	Menthol	20 grains,
	Extract of hamamelis Alcohol	each, enough to make.... 1 ounce.

M. Rub the back well with it.

A couple of ten-grain doses of trional or sulphonal in hot milk at intervals of one hour will prove very efficacious. As a stimulant, elixir Ducros, in two tablespoonful doses with a like amount of water, every two or three hours, is much used by the laity. Dietary: absolutely liquid. During the first stage of fever and the calm state it is best to give little or nothing except water as needed, two tablespoonfuls or more every half hour. Corn meal gruel, strained thin, chicken soup or broth, oatmeal gruel, are the most valuable food stuffs we possess. Fresh buttermilk in small quantities may also be used. In using these diets care must be exercised not to overload the stomach, it being safest to give small quantities at frequent intervals. There is more to be feared from eating than from nearly all other causes put together.

Black vomit is best prevented by keeping the stomach at rest as nearly as possible. Should it supervene, a large mustard plaster must be placed upon the epigastric region, and from a fourth to half a grain of hydrochloride of cocaine should be placed on the back part of the tongue and with a little water washed at once into the stomach. These measures rarely fail. Creosote in half-minim doses, pushed to the point of burning the fauces, is also a valuable remedy. Three to five or even ten grain doses of calomel, floated on champagne, have proved efficacious. Ice-cold compresses, applied to the throat, have proved serviceable in controlling nausea. Suppression of urine is a symptom demanding urgent work. Have a big mustard plaster at once applied to the loins, and while this is being made ready give a copious enema of hot water to clean out the system and relieve congestion. Give ten-minim doses of oil of turpentine on a lump of sugar every thirty minutes until sixty minims are given. Apply hot applications to the entire surface of the body. Green coffee "tea," made by putting a pint of boiling water upon two tablespoonfuls of green coffee and letting it steep, is a powerful remedy. Epistaxis, if excessive, can be controlled by plugging, or by spraying with a thirty-three-and-a-third per cent. Monsel's solution. The checking of perspiration sometimes demands attention, and is best met by hot drinks and hot applications to the body. The slow pulse and possible cardiac weakness are best treated by the use of strychnine sulphate or tincture of nux vomica. In giving rectal injections, remember that normal salt solution is not nearly so irritating as is plain water. Should convulsions supervene, direct urgent measures to all the emunctories. The patient should be placed in hot water at once, if relief is not obtained by this and small doses of bromides. Insomnia and restlessness are often relieved by sponging with equal parts of hot water and alcohol. In extremely high temperatures, when other measures fail, ice poultices or sponging with ice water may be resorted to. Of all measures at our command the enema is, without doubt, the most efficacious in yellow fever.

[NOTE.—The following modification of Surgeon General Sternberg's treatment, by Dr. Sollace Mitchell of Jacksonville, has proven very beneficial:

R. Sodii Bicarb..................................grains 10 to 40;
Hydrarg Chloridi Corrosivi..........grain 1-30;
Aquæ Puræ......................................drachms 4.

M. Give ice-cold every hour, and at night every two hours.]—EDS.

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St. J. B. GRAHAM, M. D. W. E. FITCH, M. D.

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All editorial communications should be addressed to St J. B. Graham, M. D., No. 227 East Liberty Street, Savannah, Ga.

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SECRETARIES OF MEDICAL SOCIETIES will do us a favor by keeping us informed of dates of meetings of same, etc.

PROF. KOCH'S VIEWS ON MALARIA.*

"Prof. Koch has been in German East Africa a year for the German Government, studying *Rinderpest.* He has not succeeded in isolating the parasite of the disease, and this has been a source of considerable disappointment, but he has been able to demonstrate experimentally that immunization of animals against the disease is possible, and he has made it possible to effect this practically. All this was known, and so the talk was on other subjects. Koch is an acute observer, and he has had his eyes open for the study of diseases peculiar to the tropics. With the solution of the cholera and tuberculosis riddles behind him, what was more natural than that he should devote himself to *malaria,* for which the tropics furnish so rich a field; and this subject formed the burden of his observations. He had found that 90% of the malarial fever in the tropics is not like the malaria that is seen in the temperate zone. Only 10% of the cases ran the typical course of a tertian or quotidian fever. Instead of the sharp decline of the fever after four or six hours, as is usual in an attack of malaria as we know it, in the tropical form the temperature remains at the acme for 36 hours, sometimes longer, and then descends rapidly, to remain about normal until the next paroxysm, which may take place from 24 to 48 hours afterward. This is the characteristic course of the tropical fever, which occurs, almost without exception, in the tropics when the patient is kept for some time without quinin. The seeming exceptions are due to the fact that, in the tropics, almost any disease that causes fever and is somewhat obscure is diagnosticated malaria, and the use of quinin has become so universal that it is extremely difficult to find cases absolutely uninfluenced by the drug in their regular evolution.

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* Extract from Berlin letter in *Philadelphia Medical Journal*, July 2.

"Koch has never seen the remittent form of the malaria in the tropics, and he seems to consider that the continuance of a febrile temperature between the malarial paroxysms is due to some complication and not to the malaria itself. As to the '*black-water' form of malarial hematuria*, Koch considers it a symptom of quinin-poisoning, and he does not think that the malarial parasite is ever virulent enough to lead to the disintegration of the red blood-corpuscles and the consequent appearance of blood-pigment in the urine. Koch did not see a single case of the hematuric form in which quinin had not been administered and usually in large doses. As the idiosyncrasy of certain individuals for quinin is well known, it would not be surprising if in certain cases these intense toxic symptoms should develop, though the drug had been given in what would ordinarily not be toxic doses. On this point of quinin-intoxication, producing serious symptoms usually attributed to malaria, Prof. Koch insists, and he is sure that he has good grounds for his opinion. On the other hand he found the prophylactic value of quinin *in proper doses* infallible. He never saw malaria develop in Europeans exposed to the disease who were taking 1 gram (15½ grains) daily of quinin in almost any form. Quinin has, however, been used most injudiciously in the tropics for malaria. When fever developed, quinin was given at once without relevance to the stage of the paroxysm, and ordinarily it was given in increasing doses until signs of quinin-intoxication developed. There is a special stage of the life of the parasite of malaria that is influenced by quinin, while at other times it seems to be unaffected. The time for the administration of the drug can be best judged with the aid of the microscope. For the tropical form it is curiously enough the so-called sporulation-time. The little bodies are really not spores, in the true sense of the word, and consequently they are not more resistant, but they are young and therefore delicate embryonal forms. Before they have reached the size of the corresponding forms of ordinary tertian fever they may be seen in the blood. In the roset-shaped forms, however, Koch has seen them only in the spleen and then they are only about one-third the size of the sporulation(!)-form of tertian. At other stages of the parasite in the red blood-corpuscle it seems to be much smaller than those of the extra-tropical parasite. For instance, at the end of an attack there is a signet-ring form of the parasite that corresponds to the signet-ring parasite of tertian, but it is much smaller.

"As to the manner of conveyance of malaria, Koch considers that it cannot be by means of either water or air. He feels sure that it is due to mosquitos. Mosquito-nets were as effective in protecting his party as quinin, and they tested the efficiency of the nets in this respect thoroughly. Malaria is most rife on the coast and at the foot of the mountains where mosquitos are thickest. It usually infects the islands most virulently, but on one of the islands off German East Africa there is no malaria and there is no mosquitos.

"The infection is probably not direct from one individual to another through the mosquito, but it has a stage of evolution in the insect. It may be virulent for man only after several generations in the insect. To illustrate this phase of the question Koch detailed his experience with *Texas fever*, which he found in Africa, where tradition seems to show that it has been endemic for several generations, and it is therefore not an importation from America. He repeated the experiments of Prof. Theobald Smith, in Texas, on the '*ticks*,' the insects that convey the disease from animal to animal. He substantiated Smith's observations as to the possibility of young ticks that had never been on infected animals, though raised from the eggs of insects that had been, conveying the disease. He sent a young brood to a distant part of the country where Texas fever was unknown, and, under precautions that would absolutely preclude all possibility of *coincidental infection*, had them placed on animals. He waited a week, then two, but there was no result. At the end of three weeks there was still no sign and he gave up hope, considering his experiment a failure. On the twenty-second day the first symptoms of the disease developed. The substantiation of Prof. Smith's patient, brilliant observations was received with signs of interest that scarcely needed Prof. Koch's cordial words of approving admiration to break into applause. Some such state of affairs Koch considers may exist for malaria also.

"As to the therapy of malaria, of course, quinin is a specific, but there would seem to be a hope of immunization, too. Untreated, in healthy individuals, the fever dies out. The next attack is milder, the next still milder, and so on; so that immunity is acquired. The negroes of the mountains know that when they go down to the coast they will have the fever. The coast people have acquired immunity. Even without knowing the cycle of the parasite's existence, Koch considers it not impossible that a method of immunization should be found. For rinderpest, though he could not find the parasite, he did show the possibility of immunity being produced. In smallpox, vaccination was effective, and for rabies a complete method of therapy had been found, though the cause of neither was known.

"This Prof. Koch considers to be the future of malarial investigations; for, with the discovery of a process of immunization for malaria, colonization could go on in the rich, fertile South African domains undisturbed. The task is worthy of human effort, and opens up a future of much more scientific and utilitarian importance than anything that polar investigation can hope to disclose."

It will be noted by the reader that Prof. Koch has never seen the remittent form of malarial fever in the tropics and he considers the continuance of a febrile temperature due to some complication and not to the malaria itself. May not this continuation of temperature be due to some other micro-organism? And we are not prepared to accept his belief that it is not due to the organism of malaria. There are several different forms of this minute being already demonstrated and may there not be others as yet unknown? He considers malarial hematuria due to quinine poisoning. Have not some of our readers observed hematuria where quinine has not been taken? We think so, and we hope that if any one has they will send to this journal the history of such cases; thus we can throw some light upon this unsettled question. What have our readers to say upon the question of the conveyance of malaria? It may possibly be by mosquitos, but cannot we almost say with certainty that the cause is both air and water borne? May not nets keep out some of the plasmodia as well as mosquitos? A cotton filter will stop the penetration of micro-organisms for a considerable time. This is a question worthy of consideration. This journal will find its way to men who are capable of helping much in the solution of these problems, the most important with which we in the South have to deal. We are anxious to get the views of our readers on any subject pertaining to malaria.

BLOOD EXAMINATIONS.

In order to assist in the solution of problems relating to malaria this journal will send for a time to subscribers, upon request, slides and cover glasses, that a drop of blood may be properly placed upon it and returned to us for examination, and we will send results of microscopic search by return mail free of charge. We particularly desire blood from so-called typho-malarial fever, remittent or continued types of fever, and the hemorrhagic and pernicious forms of fevers. We will send full directions for obtaining blood and fixing it upon the slide. Do physicians examine the urine as they should in these cases? Is Ehrlich's diazo reaction present or absent? This is the formula for the test solution; try it and keep a record, with blood examination and temperature chart:

A mixture of 50 cubic centimeters of sulphanilic acid solution
(Sulphanilic acid 0.5
Hydrochloric acid, pure 5.0
Distilled water.......................... 100)
and one cubic centimeter of sodium nitrite solution
(Sodium nitrite 0.5
Distilled water............................ 100)
is added to urine in equal parts, with one-eighth of the volume of ammonia water; agitate. The foam as well as the fluid will be bright red. This test is characteristic of typhoid fever. Test the

perspiration also; note carefully the condition of the tongue. Test the urine for bile by any of the well-known tests.

By working together and accepting and putting in force mutual suggestions we will approach nearer the solution of these questions and give our patients all the benefits that human aid in our present knowledge can offer.

WHERE ARE WE DRIFTING?

Never in the history of medicine in the South has the dollar been so hard to earn and so difficult to collect than in the past five or ten years, What is the "diagnosis?" It seems to us that the prime cause is the entire lack of unity on the part of the profession, which scatters its forces instead of fostering them. So long as the profession in any section or city has a bone of contention to pick upon, and this or other radical cause of weakness exists, the prospects are not flattering for fraternal amicableness and for our rehabilitation in the respect and recognition of the social and political world. It is an undisputed fact that this recognition and respect which in the decades past was ours by right of membership in a learned profession universally throughout the whole country no longer exists, except in the South, *and in the larger cities in the South it is on the wane.* Even here the exception is merely an apparent one, because some of the men take their social position with them into their profession and recognition is given to the man and not to the physician. The good old days when the degree of Doctor of Medicine also conferred a patent of gentility, to which standard one was forced to live up to, no matter what had been his past. The doctor in those days commanded the highest potential influence in the State and in the framing of laws, as the history of this country shows, have passed away; no hope of return in sight.

Politically speaking, what power have we as a profession? Do we command the attention of our senators, representatives, legislators, or even our aldermen? Sadly, no. Have any suggestions from the Georgia Medical Society of this city to the Board of Aldermen ever been received and acted upon? Does any resolution passed by that body denouncing a flagrant injustice or protest against an open public abuse receive the respect and attention it should receive from a medical organization of intelligent gentlemen? Has the honorable board ever acted upon the society's advice in regulating the quarantine and public health of this city? This is not only the status of the profession here, but we find it so North, East and West.

Our fellow citizens realize that we, as a body, have neither power nor influence. They see that our societies have no disciplinary power which they care to use, and if an effort at united action for the common good of the profession is agitated it is soon swallowed up in the struggle for personal and individual advantages and honors. In a word, it is clear to all, that we have not the will to use the power, if we had it, nor the power to use, had we the will. The medical press, the most powerful influence obtainable for the good of the profession, is not wholly ours, but is in the hands of lay-publishers. So also is our medical literature, hospitals, dispensaries, drug trade and everything else but the practice of medicine, and the laymen do some of that. This is a sphere which is naturally ours, where we should be united as a profession and command all the powerful and political influences in our reach; but, instead, we exist on suffrance. *Yet the profession, alive to these facts, is indifferent.* If we continue to be derelict to our own interests and blind to our own advantages we shall still be exploited as an easy medium, always available for increasing the bank accounts of wiser combinations of our fellow citizens. The profession everywhere needs a unity of fraternal organization on business principles. There was a time when life insurance companies paid $10.00 for an examination; the companies reduced it to $5.00, and the profession accepted the ruling. A few years ago all insurance examinations were $5.00; now they are cut again, we still accept the "cut in prices," and allow the company to regulate our charges, and this is done even in private practice. We need a revolution in the collection of our bills. The butcher, the grocer, the dressmaker are paid first, and if anything is left the doctor gets a part of his bill. A radical change along these, as well as other professional lines, is needed. When will the profession awake from their Rip Van Winkle slumbers and open their eyes to their own interests?

EDITOR'S TABLE.

The J. B. Lippincott Company, Philadelphia, have issued a blood chart, designed by J. C. DaCosta, Jr., M. D. This chart will be of great value to physicians who make examinations of the blood, and to hospitals. By simply marking the findings in the blank spaces following the printed index a complete and detailed scientific record is obtained.

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Mississippi Valley Medical Association.—The twenty-fourth annual meeting of the Mississippi Valley Medical Association will be held at Nashville, Tenn., October 11–14, under the Presidency of Dr. John Young Brown, of St. Louis, Mo.

The Association is second in size only to the American Medical Association, and has done most excellent scientific work in the past. The annual addresses will be made by Dr. Jas. T. Whittaker, of Cincinnati, on Medicine, and by Dr. Geo. Ben Johnson, of Richmond, Va., on Surgery. The mere mention of the names of these gentlemen establishes the fact that the Association will hear two scholarly and scientific addresses.

Nashville is a most excellent convention city and is well equipped with hotels, and with the record of the meeting in Louisville in 1897, as an example of the local profession under the leadership of Dr. Duncan Eve, as Chairman of the Committee of Arrangements, has prepared to have a better meeting.

Already titles of papers are being received. These should be sent to the Secretary, Dr. Henry E. Tuley, No 111 West Kentucky St., Louisville, Ky., as early as possible to insure a good place upon the program. Reduced rates on all railroads will be granted on the certificate plan.

⁂

ANNOUNCEMENT.—The partnership hitherto existing between Presley Blakiston and Kenneth M. Blakiston, under the firm name of P. Blakiston, Son & Co., expired June 30, 1898, by reason of the death of the senior member.

The business of publishing, importing and dealing in medical and scientific books, as established in 1843 by Lindsay & Blakiston, will be continued by Kenneth M. Blakiston, trading as P. Blakiston's Son & Co. Prompt payment of all outstanding accounts is requested in order to facilitate the settlement necessary to this change.

Bespeaking a continuance of the pleasant relations that have existed between the medical profession and our firm for over fifty years, we remain, Very respectfully,

P. BLAKISTON'S SON & CO.,
June 30, 1898. 1012 Walnut Street, Philadelphia.

BOOK REVIEWS.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Opthalmology, Laryngology, Dermatology, etc. Edited by Judson Daland, M. D., of Philadelphia; J. Mitchell Bruce, M. D., F. R. C. P., of London, and David W. Finley, M. D., F. R. C. P., Aberdeen, Scotland. Volume II. Eighth Series. July, 1898. Philadelphia: J. B. Lippincott & Co.

We have had occasion before to speak highly of the series of "International Clinics," issuing from the press of J. B. Lippincott & Co., and have before us the second volume for review. Like its predecessor, the contributors to this volume are teachers of repute, more than half of whom are Americans. We note that our own State is represented by J. McFadden Gaston, M. D., of Atlanta. Dr. Gaston's contribution is quite interesting on "Remedial Measures in Obstruction of the Common Bile Duct." It is pregnant with all the latest "up-to-date" views on this subject, and exhibits thorough study and a complete understanding of the subject.

Dr. Floyd M. Crandall, of the New York Polyclinic, contributes a valuable paper on "Malarial Fever in Infants and Children," which should be read by every practitioner in the *South*. The Doctor's paper is full of useful instruction.

The "International Clinics" are indispensable to those unable to keep up their knowledge and experience for want of post graduate opportunities. This is the purpose which they are meant to serve and they do it well. Taking the volume as a whole, it is very creditable to the editors, the enterprising publishers get it out well bound, profusely illustrated, on good paper, and again have the profession under obligation to them, which can only be repaid by purchasing the volumes as they appear.

Conservative Gynecology and Electro-Therapeutics: A Practical Treatise on the Diseases of Women and their Treatment by Electricity. Third edition, revised, rewritten, and greatly enlarged. By G. Betton Massey, M. D., Physician to the Gynecic Department of Howard Hospital, Philadelphia; late Electro-Therapeutist to the Infirmary for Nervous Diseases, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association, of the Société Française d'Electrotherapie, of the American Medical Association, etc. Illustrated with twelve full-page original chromo-lithographic plates in twelve colors, numerous full-page original half-tone plates of photographs taken from nature, and many other engravings in the text. Royal octavo. 400 pages. Extra cloth, beveled edges, $3.50 net. The F. A. Davis Co., publishers, 1914-16 Cherry St., Philadelphia; 117 W. Forty-second St., New York City; 9 Lakeside Building, 218-220 S. Clark St., Chicago.

This book has now passed into the third edition. What was originally a treatise on the use of electricity in the treatment of fibroid tumors and other affections, now appears as a treatise on the medical and surgical diseases of women, with special reference to the employment of electricity as a therapeutic agent. Special attention is accorded to fibroid tumors and their treatment by the method of Apostoli, to the treatment and cure of cancer by the author's major and minor method of mercuric cataphoresis. No claim is made that the book covers the field occupied by works on abdominal and pelvic surgery and diseases of women. It covers ground from the rich experience of the author and his wide range of study. To all who are interested in the successful treatment of diseases of the female organs of generation this book will prove of great value. The illustrations are superb and the mechanical execution of the best character.

A Manual of Modern Surgery, General and Operative—By John Chalmers DaCosta, M. D., Clinical Professor ot Surgery, Jefferson Medical College, Philadelphia, Surgeon to Philadelphia Hospital. One handsome volume of 900 pages, with 386 illustrations, price, cloth, $4.00, one-half morocco $5.00 net. W. B. Saunders, 925 Walnut St., Philadelphia. 1898.

This is a most excellent work. It stands between the complete but cumbersome text books and the incomplete but concentrated compend. The very large sale of the first edition of this work indicates that there was a distinct demand for such a work. The first chapter is devoted to the important subject of Bacteriology. It is the author's opinion that without some knowledge of the vital principles of this branch of science the vast importance of its truths will be ill appreciated, and there will be inevitable failure in the aseptic and antiseptic methods. The author wisely leaves the subjects of Opthalmology, Otology, Laryngology, Rhinology and Gynæcology for competent specialists to write upon. He discusses in Orthopœdic Surgery such cases as the general surgeon or practitioner should manage. He considers at length the subject of discolations and fractures, the most common and important subjects in the domain of surgery. He gives operative surgery in different sections, giving the different procedures, instruments needed, etc. The changes and additions to the second volume are numerous; among them we mention the following: Sections have been added upon the surgery of the liver and gall bladder, the spleen, the pancreas, the female breast, wounds inflicted by modern projectiles, electric injuries, and the use of the X-rays. The following operations are described: Resection of Gasserion Ganglion, Methods of Gastrotomy, Use of the Murply Batten, Various New Methods of Enterorrhaphy, J. M. Bodine's Method of Colostomy, Bassini's Operation for Inguinal Hernia, Prevention of Hemorrhage in Hip-Joint Amputation by McEwen's Method, Operation for Harelip, Senn's Method of Resection of Shoulder-Joint. The text is clearly elucidated with practical illustrations and half-tone engravings. Obsolete and unessential methods have been excluded. The book is handsomely bound, printed in large, clear type, and we heartily commend it to our readers as a helpful treatise on surgery.

PROGRESS

—OF—

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

W. Z. HOLLIDAY, M. D.,

INSTRUCTOR IN MATERIA MEDICA, MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.

RALSTON LATTIMORE, M. D.,

SAVANNAH, GA.

On the Treatment of Malarial Fevers.—M. C. Nanjunda Row, of India, writes on this subject to the *New York Medical Journal* of January 15, 1898. He advances a method of treating malarial fevers. According to this method, the dose of quinine required is not a large one; and the writer has had no occasion to give more than a gramme (fifteen grains) of quinine sulphate in one dose in even some of the refractory cases that he has had to deal with in those parts, and he has not met with a single case in which any ill effects of quinine were manifested—not even vomiting, which so frequently follows the administration of large doses of quinine.

The method is one advocated strongly by the late Dr. George Smith, once the senior physician of the General Hospital, Madras, and it depends on the fact that the best time for administering quinine is when the pathogenic germs are in the most weakened condition, and not when they are in a vigorous condition. Dr. George Smith, with a view to impress on his students the importance and reasonableness of his method of treatment, used to teach them graphically that the best treatment for malarial fevers was to "strike the enemy (malarial germs) when he is weakest, with the strongest weapon (a fairly large dose of quinine)," and that in all cases of malarial intermittent fevers the actual attack of rigors and fever was the result of the war that was taking place in the system between the malarial germs and the phagocytes, and the cessation of fever was an indication of the defeat of the enemy, caused partly by their destruction and partly by their being weakened. The interval indicates the rest and the time required for the growth of the younger germs and for the recovering of the lost strength by the weakened ones for a further attack, so that the enemy is in his weakest condition as soon as the fever begins to subside; and it is then that a large dose of quinine, the specific *par excellence* for malarial disease is to be administered and its effect prolonged by frequent smaller doses at intervals of from four to six hours for some days after that. Whatever the explanation may be, such of us as have followed his directions have yet to find a case which has not yielded to this method of treatment.

The actual method employed by the writer in all cases of intermittent fevers is never to give quinine either before or during an attack. He always waits for the attack to subside before giving any medicine; and during the attack he allows the patient to have any hot drinks he may like, such as coffee, tea or warm milk, or iced water or milk if preferred. The writer never gives any antipyretics to bring down the fever, as he has always found that the reduction of fever by means of an antipyretic prevented somehow the full action of quinine, and recurrence of the attacks has been common only in such cases. But when the fever begins to subside in the usual course, and the patient begins to perspire freely and to feel free from headache and other uncomfortable symptoms, the writer gives him from ten to fifteen grains of sulphate of quinine for the first dose, and then five grains every four, five or six hours after that (in many cases not more than four times a day) for a week at least, after which time he continues quinine in two-grain doses with four or five minims of Fowler's solution (liquor arsenicalis, B. P.) twice a day, after meals, for a fortnight longer.

If quinine is administered in this way it is very rarely that another attack occurs. In the writer's experience of many cases of malarial intermittent fevers of all types, he has not had more than five or six cases in which the attack recurred more than once, and those rapidly yielded to the quinine similarly administered again. Larger doses than fifteen grains, as advised by Dr. Ballagi and others, are perfectly unnecessary and are chiefly instrumental in producing many of the ill effects of quinine poisoning, so to speak. As a general rule Row prescribes only ten grains of sulphate of quinine for an adult for the first dose, and it is only in rare instances that he gives fifteen grains, and he has had no occasion to use any larger dose than this, as by the use of this method the very next attack is invariably prevented.

The form in which he gives quinine is that of soft gelatin capsules containing measured quantities, or that of freshly-made pills with glyceride of tragacanth, or that of wafers. It is only rarely he orders it as a mixture or solution, more especially in cases of children and others who cannot swallow a pill, however soft and small it may be. Though the solution of quinine does undoubtedly act much sooner and much more efficiently, it has two important drawbacks, viz, its bitter taste and its producing vomiting oftener than the capsules, wafers or pills, freshly prepared. Certainly, as Dr. Ballagi says, compressed tablets and hard-coated pills are to be condemned, for he knows of a case in which a brother practitioner prescribed seven of these hard-coated pills of two grains each, and six of them were passed out in the patient's motions two days after, intact.—*Ther. Gazette.*

The Alleged Accidental Discovery of the Value of Hydrochloric Acid in Sciatica.—According to an article in the *Semaine Médicale*, a patient discovered for himself a successful treatment for sciatica, a disease from which he had suffered for several years. He had been under treatment in an Algerian hospital by means of hypodermic injections of salt and water, but without much success. After he had left he bethought him that perhaps the salt was not strong enough and that a stronger preparation of salt might be more successful. He therefore procured some "spirit of salt" (hydrochloric acid) and painted it on the skin, getting rid of his long-standing trouble in a few days. Having occasion shortly afterward to attend the hospital for some other affection, he confided in Dr. Bourlier, professor of therapeutics, how he had managed to get rid of his sciatica. This gentleman thought the plan worthy of trial and employed it in several cases with invariable success. He then told his son, Dr. Maurice Bourlier, who was house physician, and he treated a number of cases with great satisfaction to himself and to his patients. A thesis has recently been published on the subject by Dr. C. Gennatas of Montpelier, on the basis of a dozen cases of neuralgia of the sciatic nerve, all of which were completely relieved by this means. The procedure is simple enough. Half an ounce of strong hydrochloric acid is put in a small cup and a brush is dipped in it and applied over the painful part of the nerve, three or four coats being painted on. The limb is then enveloped in a cotton-wool dressing. Of course the application causes a somewhat severe smarting sensation, but this is quite bearable. A few minutes afterward the skin becomes reddened and hot, and sometimes bullæ are formed which fill with fluid. These, even if they occur, disappear in two or three days. Usually the patient feels better even after a single sitting. The application can be repeated in from twenty-four to forty-eight hours, but not again for several days for fear of producing sloughs. Of course, too, where there are bullæ, they must be avoided in subsequent applications. No serious inconvenience is caused by the hydrochloric acid, such as was experienced when a similar procedure was attempted some years ago by Dr. Legroux with strong sulphuric acid, which was found to be liable to cause extensive sloughing of the skin. The twelve patients referred to were all reported as cured in from three to five sittings, extending over from a week to twenty-five days.

OLIVE OIL IN HEPATIC COLIC.—In an interesting paper on the treatment of hepatic colic, Dr. Barth states (*Med. Week*, V, p. 589,) that he has used large doses of olive oil in this affection with remarkable success, and cites several cases in support of his views. The oil was given in doses of from 150 to 200 gme. (5 to 7 fl. oz.), anisated in order to render it agreeable and insure its retention.

The writer found that in cases of biliary lithiasis of recent date, with distinct hepatic colic and jaundice by retention of bile, without any complications of angiocholitic or infective nature, the administration of large doses of olive oil will, almost to a certainty, lead to immediate suppression of the pain, rapid expulsion of the calculi, and disappearance of the jaundice and other phenomena consecutive to the arrest of the flow of bile. When repeated at intervals, and combined with hygienic measures and an appropriate diet, it seems to be able to prevent recurrence of the accidents, stimulating the secretion of bile and rendering it more liquid, thus preventing all stagnation and carrying away the gravel gradually as it forms.

When the lithiasis is complicated with adherent cholecystitis, arising from continuous irritation of the neck of the gall-bladder, the oil is still capable, by reflex action, of moderating, or even arresting, the attacks of pain; it is devoid of all influence, however, on the calculi contained in the gall-bladder itself, and unable in particular to prevent inflammation, dilatation, or ulceration of the bladder. The question may indeed be raised whether the cholagogue action of the oil is not apt to prove rather injurious than otherwise in such cases.

Lastly, the oil treatment is altogether contraindicated when the calculus affection is of old standing and has already led to chronic dilatation and absolute atony of the biliary ducts, when there already exist symptoms of ascending hepatic infection, as shown by the presence of fever, of a quick pulse in spite of the jaundice, by the occurrence of various hemorrhagic accidents, of nervous or other serious general phenomena. The oil, in cases of this kind, is still able to check the pain and to restore the flow of bile, but it remains without any action on the primary trouble itself and may possibly contribute toward hastening a fatal issue, though the additional work it gives to the liver, and through the digestive disturbance set up in an already weakened organism.

ICHTHYOL IN THE TREATMENT OF SMALL-POX.—Kolbossenka (*Vratch*, 1897, No. 13; *Monatshefte für praktische Dermatologie*, May 1, 1898,) has thoroughly observed ten patients subjected to this form of treatment. Two of them had decided pyæmic symptoms at the time of their admission into the hospital, and they soon died. Of the eight other cases, four were of the confluent variety and in four the pustules were very abundant but not confluent. From the outbreak of the rash up to the time of the completion of the incrustation, the following ointment was applied three times a day to the affected parts—in the severest cases to the entire surface of the body:

℞	Ichthyol	10 parts;	
	Oil of sweet almonds	60 "	
	Lanolin	20 "	M

The pain and itching subsided promptly, and there was hardly any suppuration. The temperature did not rise above 103° F., and no cutaneous abscesses or phlegmons occurred. The period of desiccation lasted only three or four days. Even in children the application of the ointment to the entire skin gave rise to no unpleasant effects.

MEDICINE.

UNDER THE CHARGE OF

WM. CLIFTON LYLE, M. D.,

INSTRUCTOR IN CHEMISTRY IN THE MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.

R. L. PAYNE, A. M., M. D.,

NORFOLK, VA.

DETECTION OF SPERMATIC FLUID.—Dr. Lecco (*Therapeutische Monatshefte*, October, 1897) claims that even after the lapse of several years spots of spermatic fluid are easily recognized. The following sensitive test is employed: Soak the spot in water, and introduce a drop of the solution between the microscopic slide and the cover glass; a drop of a saturated solution of iodine in iodide of potassium is now allowed to flow under the cover glass. A number of remarkably beautiful crystals, characteristic of spermatic fluid, will form; they are rhomboidal in form, often occurring in the form of crosses, and are of a brownish color. The same reaction was independently discovered by Florence at the same time.

A CASE OF LOCOMOTOR ATAXIA, TREATED WITH NITRATE OF STRYCHNINE.—By Emil Altman, M. D.—Mr. S. H., 49 years of age, presented himself at the clinic, in November, 1896, and gave the following history:

Family History: Both parents and grandparents died at an old age. None had had any nervous disease or rheumatism.

Personal History: Never had any disease except those of childhood. In 1880 he contracted a chancer; six weeks later secondary syphilitic manifestations appeared, lasting only two months. From appearance of the secondary eruptions, he was under the treatment of one of the best genito-urinary surgeons in this city. He began with 1-50 of a grain of biniodide of mercury four times daily. He very soon increased the dose to 1-25 of a grain without consulting his physician. This treatment was kept up for over two years off and on. In October, 1895, he began to complain of rheumatic pains and was treated for rheumatism; as the pains did not diminish under the anti-rheumatic treatment, he changed his physician. He was put on mixed treatment for six months, which resulted in the loss of 30 pounds in weight and nothing gained. He now began to walk unsteadily. About eight months later he came to our clinic and presented the characteristic symptoms of a classical case of locomotor ataxia. He could not walk or even stand without support, the reflexes were abolished, the pupils reacted to accommodation, not to light, marked delayed sensation, shooting pains in limbs, and tightness across the chest. The bladder was in good condition. He could not control the rectum. At times the contents of the bowels would be voided without his knowledge. At other times he would go as long as a week without a movement.

Treatment.—He was put on increasing doses of Fowler's Solution, spinal cord stretching and statical electricity; but these did little towards improving his condition.

He was next put on increasing doses of nitrate of strychnine hypodermically. He began with 10 drops of the following solution: Strych. Nitr., 1 gr.; Glycerine and water, each ½ oz. When 30 drops of this solution were taken at a dose, the strychnine was doubled, then trebled, etc., until he took over 3-5 gr. of strychnia at a dose. The method employed to reach the above dose, was to run the strychnine up to 1-6 of a grain, then commence over again with 1-48 then run up again to ⅛ of a grain, and again a return to 1-48, then the strychnine was run up to 3-5 of a grain.

Present State of the Patient.—I have examined the patient this month and found that the pains have not returned. He is able to walk with the aid of a cane, but is afraid to walk the streets alone for fear of falling, as in that case he would be unable to pick himself up. His bowels are regular, his appetite is good, and he is fairly well nourished. He stopped the strychnine treatment about eight months ago and placed himself under treatment of quacks, who promised a return of the reflexes and to make him walk without a cane, provided he buys one of their batteries, which he did, and uses it very religiously in the hope of realizing the quack's promise.

While it is not claimed here that strychnine is a cure for tabes, it certainly relieves a number of the symptoms of the disease, and by nourishing the half starved fibres of the cord it prevents the further progress of the disease.—*Post Graduate.*

A CASE OF DIABETES MELLITUS TREATED WITH A MODERN REMEDY.—RECOVERY.—Reported in *Medical Herald* by H. Enton, M. D., Brooklyn, N. Y.—In April, 1897, J. L. L., forty-five years of age, cigar agent by occupation, asked me to "look him over," saying that he ate and drank fairly and seemed to have a good digestion, but that his food certainly was not benefiting him, as he felt tired nearly all the time, was troubled a great deal with thirst, which was not much relieved by considerable draughts of cold water, and felt, as he described it, "much out of sorts." He also said that sexual inclination with him was much reduced. Inquiry developed the fact that he had to get up two or three times every night to void urine, and was at times much annoyed with an itching of the skin. A physical examination developed nothing of an abnormal character.

I at once suspected glycosuria; instructed him to save and forward to me his urine for twenty-four hours, and to report to me at stated intervals.

Right here I want to say that this man had for several years been under a most frightful strain, due to the fact that his daughter had been a victim to neurotic disorders proceeding from the womb and spine. She was troubled with night horrors, and often awoke him from a not too frequent rest with piercing screams, so that in addition to the natural nervous exhaustion due to paternal concern and natural affection for his much afflicted child, he was deprived of even a fair amount of sleep.

With my knowledge of these facts I was fully prepared to diagnose the case as one of diabetes mellitus, of neurotic origin, and was not surprised when a urinalysis confirmed my suspicions.

The quantity was about seventy ounces, specific gravity 1041, and the glucose was slightly in excess of 7 per cent. The analysis gave no hint of error of diet.

With the idea of effecting an alterative systemic change as an initial step, I at once put the patient on five-drop doses, *ter in die*, mercauro, continuing with them for ten days. I made no change in the diet. At the expiration of ten days I stopped the mercauro and put the patient on arsenauro, never, from beginning to end, exceeding the dose of five drops three times daily. Before the conclusion of one month there was a gradual reduction in the annoying symptoms. There was a fair increase in the patient's strength, a diminution of the bothersome itching, less nocturnal voiding of urine, and in short, such a general degree of improvement that I was not surprised when the analysis showed a reduction of more than one per cent in the sugar. I kept him on the one remedy, arsenauro, for four months, and at the end of that period had the pleasure of determining the complete absence of glucose from his urine. I saw him a month ago, and he was in excellent health, so I certainly regard him as cured.—*International Jour. of Surgery.*

ANTITOXIN TREATMENT OF PNEUMONIA.—Dr. A. H. Smith, of New York, read a paper with this title before the Association of American Physicians, Washington, D. C., May 4th, 1898. He thought that pneumonia infection was from a continuously changing set of microbes; while old ones were dying out new ones were growing up and infecting the body. There must be an antitoxin which had its share in the resolution of the disease, and thus began its action from the beginning of an attack. He had made a culture broth of these organisms, peptonized with ammonium sulphate, and had injected it into rabbits and given them immunity. He had then killed the animals and injected the blood into other rabbits, and so on until all were immune. Blood from a man ill with pneumonia killed a rabbit at once. The speaker then reviewed the subject of pneumotoxin and antipneumotoxin. Toxins, he said, were not always of the same strength, and might be either worthless or extremely dangerous. Washburn had been endeavoring to produce a reliable toxin, and the New York health board was also trying the same thing.

Dr. William H. Welch, of Baltimore, said that he had been experimenting with these toxins and had published his results. The works of Klemperer had been disproved. He had repeated all of the latter's experiments and had found it very difficult to demonstrate a toxin in the blood of those who had recovered from pneumonia. He had injected a stronger culture into rabbits and it did not kill them. It was not true that antitoxin appeared in the blood of a person in the crisis of pneumonia; on the contrary, the toxin was stronger at that time. Thus one and one-half cubic centimetres of the blood of a person convalescing from pneumonia three or four days after the crisis was rapidly fatal in small amount to rabbits. By the method of Washburn no one could tell what the result would be, but if one could judge by analogy the injection of living cultures was not likely to lead to the formation of an antitoxin.

Dr. V. C. Vaughan, of Ann Arbor, Mich., said he had read a paper on this subject in 1894 at the International Congress of Hygiene, at Buda-Pest, and in the recent abstract of this work by Lewy and Richter his paper had been included. He agreed entirely with Dr. Welch that the pneumotoxin was preventive only to a certain degree and this only temporarily so, but the difficulty was to know what amount of antitoxin to use; the result, too, depended on the leucocytosis that existed at the time. There was no promise at the present time of making the pneumotoxin of therapeutical effect. The action was germicidal and was not antitoxic in character.

Dr. Charles G. Stockton, of Buffalo, said there was a feeling that a degree of leucocytosis had something to do with the decline of pneumonia, and the safety of a given patient depended on this degree. He showed the blood and temperature charts of a case which he had had in a child, eight years old, that had a recurrence of lobar pneumonia; it had had three distinct attacks in six weeks. There was no expectoration, so the sputum could not be examined; but the physical signs were classically distinct and there was evidence of intoxication. There was a complete absence of the usual symptoms, and the physical signs were those of catarrhal pneumonia. The point of interest was that the blood was counted in these attacks, and just at the end of each attack it was found to have very few of these white cells; but at the end of the last attack there was a greater degree of lymphocytosis. There was nothing peculiar about the blood in this case; fifty-six days after the end of the last attack the blood was normal. This case was unusual. It might fairly have this interpretation, in the absence of the normal number of leucocytes, especially of the multinuclear cells. The child did not gain the immunity which an ordinary attack would give, and this might be a certain amount of proof that only in the last attack did the blood reach the normal immunity.

Dr. William S. Thayer, of Baltimore, said that in his experience the great difference was in the behavior of the leucocytes. During the crisis it depended on the clearing up of the lung rather than on the temperature. When the lung consolidation was retarded the leucocytosis lasted longer. In some cases there was a fall at the time of the crisis.

GENERAL SURGERY.

UNDER THE CHARGE OF

HUGH M. TAYLOR, M. D.

PROFESSOR OF SURGERY IN THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

WILLIS F. WESTMORELAND, M. D.,

PROFESSOR OF SURGERY IN THE ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS, ATLANTA, GA.

ANEURISM OF AORTIC ARCH—SURGICAL TREATMENT BY LIGATION—RIGHT SUBCLAVIAN AND COMMON CAROTID ARTERIES, WITH REPORT OF A CASE.—Research shows that nine such cases have been operated upon in the manner described in the title of this paper, two of which have died. The great difficulty is diagnosis.

Christopher Heath, 1865, was the first to operate in this way, supposedly for aneurism of the innominate.

Draste, 1895, injected a solution of gelatine into the veins, experimentally. It has been injected into the first portion of the aortic arch in man, with negative results.

Of four hundred cases of rupture of the heart, but one was of the right auricle.

The following surgical classification of aneurism of the arch of the aorta is made:

1st. Those cases in which the right subclavian and common carorid arteries should be ligated.

2d. Those in which wire should be introduced.

3d. Those in which nothing should be done.

The case operated upon by the author of the present paper was a man—white—American—aged 40 years, and of specific history. Operation was done February 15, 1898; the time consumed in the same being seven minutes for the subclavian and five minutes for the common carotid. The ligation was made with kangaroo tendons. Improvement in the condition of the patient up to the date of this report has been most wonderful.

Berneys suggests a novel idea for reaching the innominate, carotid and subclavian arteries, by making an incision in the median line over the sternum, and then dividing the cartilage perpendicularly and laterally, turning the fragment to the right or left as the occasion may require. In this way the arteries may be felt, exposed and ligated with but little hemorrhage, and in a short time. The fragment is then returned to its normal position, and sutured and dressed in the ordinary way.

I find this method of reaching the arteries by actual demonstration on the dog to be a very plausible procedure, and one that will likely take its place among the various operations in this locality of the body.

CONCLUSIONS.

1st. The remedy lies within the domain of surgery, the specific trouble having been properly treated.

2d. There are but two methods at the present time:
  (a) Obstruction of right subclavian and common carotid arteries.
  (b) Introduction of wire into the sac, with or without galvanism.

3d. Either one or both of the operations should be applied in all cases, after a thorough saturation with the iodides.

4th. Ligation is attended by less danger, less mortality, and more permanent and universal benefit.

5th. Ligation of the subclavian and common carotid arteries is less dangerous than ligation of the innominate; in point of fact, the latter should not be done.

6th. The iodides should always precede and follow any surgical interference on account of aneurismal arteries.

7th. Extreme atheroma might contraindicate ligation.

8th. Extreme atheroma might possibly indicate the introduction of needles or wire with or without galvanism.

9th. Atheroma, to some degree, is present in the majority of the arch aneurisms.

10th. It is impossible to technically classify arch aneurisms.

11th. The results of the ligation herein contained have been far more beneficial than anticipated.—*Dr. Merrill Rickets in Va. Med. Semi-Monthly.*

A NEW METHOD OF DISINFECTING THE HANDS FOR OPERATIONS.—Menge, in the *Münchener Medicinische Wochenschrift*, says that as is generally understood sterilization of the hands for operations is impossible. Many methods have been devised, none of which, however, have stood rigid bacteriological tests. The use of operating gloves, made either of cotton cloth or India rubber, have the advantage of being rendered sterile by boiling, but have also many disadvantages, chief among which is the altered sense of touch to the fingers of the operator, and the difficulty in accomplishing certain maneuvers, such as the tying of ligatures, etc.

He proposes the following method, which he thinks will combine the advantages of both the chemical and glove method: The hands are first thoroughly washed in hot water and a potassium soap, a nail brush being vigorously used, and particular attention being paid to the finger nails and the spaces around the nails. They are then immersed in an antiseptic solution of sufficient strength to kill bacteria in a short space of time. Either bichloride or alcohol may be used for this purpose. A bath of 70 per cent. alcohol is then used until the skin is thoroughly permeated and the hands wiped dry on a sterile towel. A solution of paraffin and xylol is then poured over the hands, which, when the xylol evaporates, forms a thin coating, to a great extent playing the part of the operating glove.—*Maryland Medical Journal.*

THE PRESENT STATUS OF SURGERY OF THE LUNGS.—During a meeting of the surgical section, Versammlung deutscher Naturforscher und Aerzte, September 20–25, 1897, Dr. Sonnenburg discussed the above subject. He divides long surgery into pneumotomy and pneumectomy; he always makes a large flap and removes several ribs in order to gain as large a field as possible. As to the pleura, he recommends the immediate—not mediate—suture thereof; often the pleura is already adherent. Puncture of the lung has been warned against because of fear of infection. It is certainly better to puncture after resection of the ribs; puncture, too, is very often uncertain, even though the abscess be near by, and repeated puncture with a short needle is often necessary if the abscess is a deep-seated one. On the other hand, the longer the needle the greater the danger to the large vessels in puncturing. Palpation gives better and quicker results. This is best carried out by separating the parietal pleura from the ribs, and then introducing the hand between the pleura and ribs; the field for operation being thus discovered, the ribs are removed directly opposite the diseased lung. Regarding the question of knife or cautery in attacking the lung tissue, Dr. Sonnenberg prefers the knife when the tissues are hard and sclerosed; there is no danger of hemorrhage. When the tissues are soft, inflamed, succulent, cautery is the proper method. The abscesses are to be opened wide and tamponed, particularly when a communication of the abscess with bronchi exists; else the patients cannot breathe. The operation for ecchinococcus of the lung gives very good results; the treatment of these tumors by aspiration and injection of medication the speaker considers dangerous. Among inflammatory conditions of the lung, abscess, gangrene and bronchiectasis have been attacked surgically. Acute abscesses offer a good prognosis, particularly when early operated on; they occur most frequently after true pneumonia and after influenza. Chronic abscesses, on the other hand, do not offer a good prognosis; most often leaving a fistula after the operation, because of the more or less indurated condition of the tissue. In 80% of the cases the abscesses were found in the lower lobes. Metastatic abscesses offer very little chance for the surgeon; such cases almost invariably are fatal. There is more hope in those cases produced by an abscess in the neighborhood, *e. g.*, diaphragmatic abscess, abscess of the liver. Abscesses caused by foreign bodies are generally putrid and accompanied by a purulent pleuritis; often the foreign body is situated quite distant from the seat of the abscess. Only when single and sacculated ought bronchiectases to be operated on; when small and multiple they most rarely heal—they leave fistulæ. Operations for gangrene have resulted in thirty-five cures out of forty-seven cases; Sonnenburg's cases all ended fatally. Finally, actinomycosis may be operable, particularly when the abscesses formed are superficial.—*Wiener medizinische Blätter*, No. 40, 1897.

On the Etiology and Treatment of Glandular Enlargement in the Neck.—The glandular enlargements of the neck are divided by Miller (*Scottish Medical and Surgical Journal*, December, 1897,) into six groups differing slightly from the usual anatomical division. 1. Those at the back of the neck, the *occipital* group. 2. Those behind the ear, the *mastoid* group. 3. Those in front of the ear, the parotid group, which may again be divided into the superficial and the deep. 4. Those under the jaw, the *submaxillary* group. 5. Those lying along the sterno-mastoid muscles, the *sterno-mastoid* group, which are divided into superior and inferior. 6. Those above the clavicle, the supra-clavicular group.

The author, in his paper, deals only with simple chronic and tubercular enlargements.

The enlargements are not generally noticed until they have existed for some time. The simpler ones are usually found in a delicate child, possibly healthy in all other respects. The glands are almond-shaped, firm, not sensitive, freely movable, enlarging very slowly, and with a history of an acute or subacute attack of inflammation.

Tubercular disease has three distinct stages; the ones described are added softening, then liquefaction with final discharge. The author believes that in many cases there is a pretubercular stage, and that simple adenitis is often followed by the tubercular.

The groups of glands he describes receive their lymphatics from the areas surrounding them: the occipital from the posterior part of the scalp; the mastoid from the scalp and ear; the parotid from the front of the head, the ear, and several other parts. This group is further subdivided into the superficial and deep. The former glands are served by vessels from the front of the scalp, the external ear and meatus; while the latter are connected with the orbit, nose, pharynx, middle-ear, and upper teeth. The submaxillary glands derive their lymph from the cheeks, lip, mouth and lower teeth. Of the sterno-mastoid groups which, along with the submaxillary glands, are the most frequently affected, the upper series is connected with the tonsils, pharynx, œsophagus and larynx; while the lower ones are related to the deeper structures and are generally found to become affected secondarily to the upper ones. The supra-clavicular are connected with the intra-thoracic and axillary glands.

The clinical importance of these relations is the fact that the cause of the enlargement is usually found to be in these regions. Glandular enlargement has always a cause, which should be sought for and removed, if possible. If the cause be not removed, the enlargement will persist, and such persistence (the open door) may give occasion to tuberculosis. Persistent enlargement, after removal of all discoverable causes, generally means tubercular infection or a pretubercular condition; therefore, all persistently enlarged glands should be excised.

RAILWAY SURGERY.

UNDER THE CHARGE OF
FRANK H. CALDWELL, M. D.,
CHIEF SURGEON PLANT SYSTEM OF RAILWAYS, WAYCROSS, GA.
R. P. IZLAR, M. D.,
MAJOR AND SURGEON U. S. VOLUNTEERS; HOUSE SURGEON GENERAL HOSPITAL PLANT SYSTEM OF RAILWAYS, WAYCROSS, GA.

Shock or Neuro-Paralysis.—By Dr. W. L. Dick, M. D., Columbus, Ohio.—Shock or neuroparalysis has been defined as a sudden or instantaneous depression of organic, nervous or vital power; often with more or less perturbation of body and mind, passing either into reaction or into fatal collapse, occasioned by the nature, severity or extent of an injury or by an overwhelming moral calamity. Its manifestations are through the nervous system and are exhibited more markedly by depressed action of the circulatory organs, vaso-motor paralysis. It immediately follows every injury requiring surgical attention, and is to be distinguished from the effects of hemorrhage, and in cases of surgical operation from the effects of anæsthetics, although in many instances it may be aggravated by either or both. The symptoms of shock are the immediate consequence of the injury sustained. The assumption of the possibility of a condition of delayed shock as often referred to by many surgeons is not consistent with the nature of shock itself. Whenever a condition of sudden and marked depression declares itself some time after the reception of an injury, it is always due to some distinct cause other than the original injury, and when recovery from shock is delayed, and we have distinct manifestations of improvement and retrogression present, a diseased condition, possibly resulting directly from the injury, is always the cause and should never be taken for delayed shock. For this reason the terms which are found in older textbooks and which are still often used in ordinary surgical parlance, viz., delayed shock, secondary shock and imperfect reaction from shock, may be misleading, as they tend to direct the attention from the real condition of the patient. The conditions which most frequently cause these symptoms of later depression are concealed hemorrhage, septic infection and fat embolism. Pulmonary œdema and renal congestion are also possible conditions always to be looked for when a sudden or unfavorable turn occurs in the condition of the patient soon after an injury has been sustained, especially when ether has been used as an anæsthetic. The pathology of shock cannot be determined by the ordinary methods of research. In such cases death leaves no change which can be detected in any of the tissues. Sometimes, however, as seems to have been shown by Galtz, a marked distinction of the intra-abdominal veins exists.

The phenomena of shock must be accepted as the measure of the ability of the individual to resist hurtful influences from without, which is very different in different cases and at different times in the same individual; but the influence, from whatever source it may come, whether from an injury or from a mental emotion, is made manifest through the vaso-motor nerves, which have their origin in the medulla oblongata, thence their fibers pass down into the interior of the spinal cord and issuing with the anterior roots of the spinal nerves traverse the various ganglia on the præ-vertebral cord of the sympathetic, and accompanied by the branches from these ganglia pass to their destination. Secondary or subordinate centers exist in the spinal cord and local centers in the various regions of the body, and through these various centers the vaso-motor changes are effected. These centers may be affected very greatly by impressions descending from the cerebrum, as in shock from great mental emotion, of which a good example is furnished us by Dr. R. Harvey Reed in a paper read before the Central Ohio Medical Society. In a B. & O. wreck a man received such a shock from fright that his finger and toe nails, together with his hair and beard, had died, the influence exerted through the vaso-motor nerves by the impression being so great as to impair nutrition to such an extent that the patient never recovered. In this case mental shock produced permanent lesions of the nervous system with its corresponding physical manifestations. We have, then, shock produced in three different ways, by injury, by mental emotion and by physical injury and mental emotion combined.

The symptoms are well known by every surgeon and need not be mentioned here. The most important points to us are how should shock be treated in railway injuries, and when is the best time for operation. The first duty of the surgeon to the patient suffering from shock is to place the injured part in the most favorable position so that pain and increase of the already existing depression may be avoided as much as possible. If an immediate operation is not deemed advisable, perfect quiet should be secured, and every effort made to reassure the mind and allay the fears of the unfortunate victim of the injury. The patient should be placed in bed with hot water bags or bottles of hot water placed around him and covered with blankets to prevent radiation and restore the normal temperature of the body. The next important step is the judicious stimulation of the paralyzed and flagging nerve centers. I say judicious stimulation, for I believe there is often much harm done by constantly filling the patient's stomach with large draughts of whiskey or other alcoholic drinks. Strychnia, sulphate or nitrate, with nitro-glycerine or atropine, stands first on the list of stimulants and should be administered hypodermically in small and repeated doses until the desired results are obtained. Nitrate of strychnia and nitro-glycerine, aa 1-120th of a grain administered hypodermically every 15 to 30 minutes, is one of the best methods of stimulation. If, however, after a reasonable length of time, say 4 to 6 hours, the extremities remain cold, we may resort to the more diffusive stimulants, such as alcohol, ammonia, hot milk, etc. We should not do too much but remember that time and physiological rest are important factors in the treatment of shock.

As to the time when the operation should be performed, there has been much discussion, and different surgeons differ in opinion as to when is the best time to operate. Ashurst says that in some instances, especially of compound fracture produced by railroad or machinery, the mangled limb seems by its presence to act as a continual source of depression, and in such cases he advises immediate amputation.

Bryant, as quoted by some writers, lays down the rule that in the presence of severe shock from slight injuries it is all right to operate, but in severe shock from severe injury it should not be done. Gross taught that the knife would often act as a stimulus favoring reaction from shock, but such has not been the experience of most surgeons of to-day. There can be no definite rule laid down by which a surgeon can be guided. Every case demands its own especial treatment, but it is generally conceded by all surgeons that operative interference should be delayed until reaction from shock be well advanced, except when we have a case of uncontrollable hemorrhage or one where the shock is kept up by some continuing cause.

Let me say in conclusion that when we are called to a railroad injury, the proper thing to do is to dress the injured part as quickly as possible with an antiseptic dressing and place it at rest, and if there be no hemorrhage, to administer the proper treatment for the relief of shock and await surgical interference until reaction is fully established.

SUMMARY.

First: Shock is never "delayed."

Second: Shock must be differentiated from reaction.

Third: The kind of stimulant indicated first is the kind that acts on the vaso-motor nervous system, such as the nitrate of strychnia, nitro-glycerine, etc., and that if alcoholic stimulants are used at all they should not be used until 4 or 6 hours have passed, and not necessarily then unless the extremities remain cold.

Fourth: The time for operation must be left to the judgment of the surgeon, as no definite rule can be laid down as to when operative interference is indicated.—*Railway Surgeon.*

WHAT FIRST TO DO IN HEAT PROSTRATION.—Decide if it is a case of heatstroke or sunstroke, or of heat exhaustion. The first thing to do is to take the temperature. If there are obstacles to taking temperature per mouth, such as gritting the teeth, or danger of the thermometer being crushed by the teeth, take the temperature by rectum. The axilary temperature will only give the surface heat. Notice if the skin is hot and dry or cool and moist to the hand. Hot skin and high temperature indicate sunstroke or heatstroke and not heat exhaustion, whereas the cool skin and temperature near or below normal, indicate heat exhaustion.

The treatment for these conditions is directly opposite. For the high temperature of sunstroke cool baths, cold to the head, the avoidance of alcohol, etc., are indicated. For the subnormal temperature of heat exhaustion the application of dry heat, moderate use of alcoholic stimulants and perhaps digitalis, are indicated. After meeting the few previous indications proceed cautiously and deliberately, perhaps taking time to re-read carefully and entirely the above article. The preceding circumstances surrounding the individual, as whether or not he was exposed to the direct rays of the sun, or great artificial heat, or to moderate but long continued solar or artificial heat, and to exhaustion by long-continued muscular effort, privation or dissipation of any kind. Thus the history of the several days preceding the attack will throw much light upon the proper management of the case.

Don't be hasty in giving a prognosis. Be especially careful not to promise early or complete recovery, for even in the most favorable cases absence from occupation for several weeks is frequently necessary.—*Brief.*

So many of our railway employees are suffering from prostration during the heated term, we offer no apology for offering the above extract to refresh the memory of our surgeons.

The international congress of railway surgeons have just concluded an interesting and instructive meeting at Toronto. Many practical papers have been read and we hope at an early date to give our readers the benefit of some of the most practicable ones, especially those relating to shock.

Dr. W. P. Lawrence, surgeon of the Plant System at Tampa, is with the troops at Santiago and reports having his hands full.

Maj. Izlar is still at Palmetto Beach near Tampa. He is in charge of the 3d division hospital of the 4th corps. There are many cases of typhoid fever among the troops, due to unripe fruit, bad whiskey and stale beer.

[How about the drinking water?]—Ed.

Dr. N. Senn has gone to the front with a complete corps of doctors and nurses, sailing from Charleston.

Immune doctors and nurses are in demand. If the U. S. Government would not be so stingy there would be no trouble in securing able men, but you cannot expect one to leave a lucrative practice and undergo the hardship of army life for a barely sufficient amount to pay expenses. Our surgeons are doing right in holding off until they receive proper compensation for services rendered.

OBSTETRICS AND GYNÆCOLOGY.

UNDER THE CHARGE OF
WILLIAM S. GARDNER, M. D.,
INSTRUCTOR IN GYNÆCOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE, M. D.
HUBERT A. ROYSTER, A. B., M. D.,
RALEIGH, N. C.

The Technique of Abdominal Hysterectomy.—Dr. J. F. Baldwin (*Columbus Med, Jour.*, XVIII, No. 13) cites a method of the technique of abdominal hysterectomy whereby he saves time, synchronously securing a smooth pelvic floor, with the slightest possible exposure of raw surface.

After opening the abdomen in the usual way, by a free incision, he draws up the uterine mass and clamps the most accessible broad ligament, just outside of the ovary, the long clamp being directed downward and inward toward the uterus. An ordinary hemostatic forceps, or short clamp, is then attached to the upper border of the ligament next the uterus, to prevent recurrent hemorrhage through ovarian artery. The broad ligament is then severed along the clamp first applied; the opposite broad ligament is treated likewise. The peritoneal flap is made in front of the uterus, between the tips of two clamps, the bladder separated from the uterus, a similar but shorter flap is made posteriorly.

The layers of broad ligament are separated on each side, between the clamp and the uterus, and the uterine artery is seized with a long forceps. The uterus is then detached at or below the level of the internal os, so as to give out an anterior and posterior flap of uterine tissue.

The uterine mass is now removed, and the pelvis is empty, and hemorrhage controlled. The uterine artery on each side is ligated. The wound is seized with a forceps next to clamp, so as to prevent its retracting, and the clamp removed from broad ligament. The ovarian artery is caught and drawn out from between folds of broad ligament ligated with fine silk and projecting end cut off. The same is done on opposite side. A long silver probe is now threaded with iodoform gauze, about one inch wide, passed through cervical canal and seized by assistant. The gauze is cut flush with bottom of wound. It keeps cervical canal clean and insures drainage of wound in case of oozing.

The uterine flaps are brought into apposition by a running suture. With first insertion of this suture upon one side, the round ligament on that side is brought down and transfixed, so as to be implanted when the suture is tied, between flaps on that side. This is also done with opposite wound ligament.

Commencing next at upper edge of one broad-ligament stump, the peritoneal layers are inverted, and with a kangaroo tendon, or catgut, a continuous "over and over" suture is applied, running down the broad ligament, then across over the cervical stump, turning in peritoneal flaps as it proceeds, and up on the opposite side. This suture should be so inserted as to draw together snugly the tissues of the broad ligaments, which being thus singly apposed, unite so as to make excellent supports for the stump in addition to the round ligaments. The operation as thus completed leaves a perfectly smooth pelvic floor, with, at no point, the exposure of any raw surface.

The advantages of this method of operating are:

1. Such a shutting off of the vagina as to reduce to a minimum any danger of infection from that source.
2. The ligature placed around the uterine artery is entirely outside of uterine wound, and being of fine material and buried in the tissues, is much less likely to give trouble.
3. The snug closing of cervical tissue prevents oozing.
4. The smooth peritoneum in the floor of pelvis having no projection stump or raw surfaces, reduces to an absolute minimum the danger in intestinal adhesions.
5. The implantation of the round ligaments and puckering in of the stumps of the broad ligaments prevents prolapse of cervical stump and vagina.
6. The use of clamps on broad ligaments obviates hemorrhage, leaves the parts in better shape for the subsequent steps of the operation, and saves considerable time.

PRECOCIOUS MENSTRUATION.—The further history of a case of precocious menstruation, recorded by Dr. Johann W. Irion, of Fort Worth, Texas, in *The Journal* of August 15, 1896, was reported by him at a meeting of the North Texas Medical Association held on May 5th.

Dr. Irion said: "Now that more than three years have elapsed since the birth of the child, I think that a report of the case up to date will be of interest to you. The child has enjoyed exceptionally good health and has developed rapidly. Mentally she is very active, and physically robust. The breasts have developed slowly but perceptibly, the nipples were well formed, the mons Veneris is rounded and prominent, but there is no growth of hair or the pubes. She has missed two periods and exhibited all the nervous phenomena of an adult, as she did when she missed the third period, in December, 1895. The mother attributes the missing of the periods to a cold bath given the day before the period should have occurred. The menstrual flow occurs with regularity, without pain, and continues for four days. The day before the flow begins and on the first day of the flow she is frequently irritable; otherwise she is a normal child in every way, showing the wishes and delights of other children of her age."—*Ibid.*

SOME METHODS FOR THE RESUSCITATION OF APPARENTLY DEAD OR FEEBLE NEW-BORN INFANTS.—Brown (*Centralblatt fur Gynakologie,* 1897, No. 47). In differentiating apparently dead from still-born babes attention should be paid to the temperature. Hope should not be despaired of until the temperature has fallen from 15 to 20 degrees below normal and remains so for a minute or so. The pupil in an apparently dead infant is but slightly relaxed, whereas in a still-born child it is completely so. Excellent results were obtained by the hypodermic injection into both arms of a mixture of 4 to 5 drops of whiskey with 1 drop of tincture of belladonna. The author also employs the subcutaneous injection of about 2 drams of warm water; with about the same quantity of warm water to which 1 drop of aromatic spirits of ammonia has been added as an injection into the bowel. He supplements these measures by the employment of dry heat by means of hot-water bottles. When swallowing has occurred, brandy, tincture of belladonna and aromatic spirits of ammonia may be administered in a little milk. This treatment has been found very beneficial for feeble infants in the first few days after birth, before lactation has been fully developed.

THE CÆSAREAN SECTION VERSUS FŒTAL MORTALITY.—In a paper on the foregoing subject read before the section in gynæcology, College of Physicians of Philadelphia, the author considers that the maternal mortality of the Cæsarean section, when restricted to the favorable cases, which alone he is considering, is as low as, and the fœtal mortality greatly lower than, those of any other method of dealing with more than ordinarly difficult operative deliveries. The practical conclusions which he draws from his experience in the conduct of labor as a whole are:

1. That in women who are the subjects of visceral disease or other previous ill health, and in women who are exhausted by long labor, the maternal mortality of the Cæsarean section is too great to allow of its performance in the interests of the child alone.
2. That in primiparæ with moderate contraction the decision whether or not the Cæsarean should be performed as an alternative operation at the beginning of labor in preference to an attempt at an intrapelvic delivery, is a decision which is intrinsically so difficult that it should be attempted by none but the most experienced obstetricians.
3. That in most such cases ot moderate contraction in primiparæ it is best to wait until the progress of labor teaches us which is to be the safer operation in the given case.
4. That when any healthy woman has lost one child by a difficult operative labor in the hands of an expert she should in the next labor be prepared for Cæsarean section and delivered by it, unless the course of labor shows that from some changed condition—*e. g.*, a small child or a more favorable position—a forceps delivery is likely to be easy.
5. That when any case occurs in the practice of the comparatively few men who are really experienced in both obstetrical and abdomi-

nal surgery, in which an attempted forceps operation proves to be exceptionally difficult and version promises no better results, the forceps operation should be suspended, and, if the fœtal heart is undisturbed, should be abandoned in favor of the Cæsarean delivery.

6. That in very small pelvis—*e. g.*, those under three inches and a quarter in the conjugate—the Cæsarean section in favorable circumstances is the operation of preference.

In what has been so far said he has restricted himself to the practice of specially experienced men, but he would recommend to the general practitioner the following rules for his guidance:

1. No man should recommend or undertake the Cæsarean section unless he is able to make preparations adequate for the performance of any abdominal operation and to secure proper assistance.

2. In unfavorable cases the maternal mortality of the section is too high to justify its performance for the sake of the child alone.

3. In the present state of obstetrical knowledge there must be many cases of high delay in primiparous labor in which no difficulty is anticipated until the delays which would be incident to the procuring of a consultation, and the subsequent preparations for the Cæsarean section would necessarily be fatal to the child. In such cases, the maternal mortality being about equal, the child's best chances lie in the application of one of the only operations which can be done immediately—*i. e.*, the forceps or version—but in the subsequent pregnancies of the same woman the pelvis should be measured during pregnancy, and, even if no contraction is found, preparations for a Cæsarean section should be made before the woman is allowed to go into labor.

4. When any practitioner is consulted by a patient in whom a previous labor has resulted in the delivery of a still-born child by high forceps or version performed for simple delay—*i. e.*, in the absence of obstetrical emergencies—the pelvis should be measured and the question of the performance of the Cæsarean section should be settled in advance of labor upon the rules already laid down.

5. The decision as to the choice of operation is the only point in the matter which demands exceptional experience, and, a decision that a Cæsarean section is indicated having once been reached, the operation itself may be performed by any man who has had a fair experience in abdominal surgery.

DOMESTIC CAUSES OF PUERPERAL FEVER.—Dr. W. E. Ground (Trans. Wisc. State Med. Society) thinks that the husband, as a factor on the production of puerperal sepsis, has not received the consideration he deserves. He often initiates the septic process in his wife soon after marriage by inoculating her with the gonococcus, and when she is near the end of pregnancy he comes home with a soft chancre and continues his septic and sexual relations with her. Most men touch their penis several times a day while urinating, and yet probably few of them ever think of washing it, no matter how dirty their occupations, before thrusting it into the parturient canal at night. Men sometimes have sexual relations with their wives within a week or two after confinement. The woman develops symptoms of puerperal fever, and the doctor is puzzled to explain the cause, and perhaps lays it to the breasts, or catching cold, or to auto-infection. The patient does not have many opportunities for infecting herself, but the methods she employs are calculated to be very successful. Most women think any old rags are good enough to receive the lochial discharge. They must be prohibited from so doing. She must be discouraged from using the family sponge to bathe herself with. The surgeon would do well if he ordered all wash rags and sponges used for such purposes burned before labor begins, for they will turn up unexpectedly a dozen times during the confinement unless they are entirely out of reach. Only recently he had prepared a parturient woman in a thoroughly aseptic manner, when she found it necessary to visit the closet and while there the waters broke and began dribbling away, when she promptly applied the bathroom sponge to the vulva, where he found it an hour later. These may seem to be little things, but if we expect to do aseptic surgery and get desirable results we must be eternally vigilant.—*The Med. Times.*

METRORRHAGIA IN OLD WOMEN.—M. Chaleix: In a former session several of us had attributed these losses to a senile endometritis, others to neoplastic alteration of the uterine mucose. In support of the first of these views I had reported the case of a woman fifty-five years old who was subject, ten years after the menopause, to losses of blood. The cervix was healthy, and the endometrium free from fungosities. The hemorrhages yielded to intra-uterine application of creosoted glycerine, followed by very hot irrigations, and did not recur for two years. When seen at the expiration of three years she suffered severely from hemorrhages, and presented a large globular tumor which was manifestly a cancer of the uterus. She soon succumbed to the disease. In this case the neoplasm had developed upon a simple senile endometritis. A similar history was presented by a second case. Thus it appears that metrorrhagias in old women have a great prognosis.

Discussion: M. Demons: I believe that the beginning of these metrorrhagias might be attributed to adenomata of the glands of the muoosa, which were later the starting-point of the malignant degeneration.

M. Boursier: I do not believe that there was in these patients a transformation of the endometritis into cancer; it is not the usual course of malignant tumors even of the body of the uterus.—*Amer. Gyn. & Obst. Jour.*

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

UNDER THE CHARGE OF
J. LAWTON HIERS, M. D.,
OPHTHALMOLOGIST AND LARYNGOLOGIST TO ST. JAMES DISPENSARY AND BETHESDA ORPHAN ASYLUM, SAVANNAH, GA.
S. POTTS EAGLETON, M. D.,
OPHTHALMIC SURGEON TO MARION COUNTY HOSPITAL, OCALA, FLA.
CARLTON MITCHELL M. D.
NEW ORLEANS.

Some Results in Cases of Tobacco-Amblyopia.—Dr. L. J. Lautenbach, of Philadelphia, in a discussion before the Section of Ophthalmology at the Denver meeting of the American Medical Association, related a number of cases of tobacco-amblyopia, in some of which the patients had gotten well even though they continued chewing tobacco, and he suggested the following method of treatment: absolute cessation of smoking, the use of potassium iodid and strychnin in increasing doses, frequent applications of hot lotions to the eye, and general hot baths to be taken every night. He believes that these latter measures have aided him very materially in securing good results.

Bacteria One of the Chief Etiologic Factors in Diseases of the Eye.—Dr. E. O. Sisson, of Keokuk, Iowa, in *Phil. Med. Jour.*, gives an extensive review of the literature to show the number of eye-diseases that had been found to be due to some specific organism.

Ocular Troubles of a Bicyclist.—A professional rider, twenty-four years of age, was attacked with peculiar visual disturbances during a twenty-four hour race made in very cold weather. About the eighteenth hour he noticed that his vision was disturbed, that he steered badly, and that he ran into the other machines. Dr. Duboys found a diffuse disturbance of both corneæ without superficial lesion. He prescribed warm lotions and rest. On the same evening the vision commenced to improve; on the next day the corneæ had regained their normal appearance and the vision had its usual acuity. This trouble, according to the author, was due to the cold.

Indeed, during the night of the race in question, from the 2d to the 3d of February, it was very cold, and the thermometer sunk to—10°-12°. It must be added that during the entire race there was a corps of forerunners (trainers) who broke the force of the wind behind them. They were followed by the racers, and, so to speak, each racer was protected by a forerunner mounted on a bicycle, or forerunners on a tandem. The current of air thus made was so violent that if a crumpled paper was placed on the track when the racers passed by the paper rolled along and was drawn after them for several metres.—Dr. Duboys de Lavigerie in *Annales D'Oculistique.*

PATHOLOGICAL RELATION BETWEEN THE NOSE AND EYES.—By Dr. M. A. Castex (*Revue Internationale de Rhinologie,* 1897).

The author writes that if the nasal fossae may be the cause of numerous ocular affections, the contrary is rarely observed. He describes the case of a patient attacked by atrophic rhinitis and, at the same time, by amaurosis, due to atrophy of the papillae. All would be explained if rhinoscopy showed, for example, an affection of the sphenoidal sinus compressing the chiasm of the optic nerves or the base of the skull. No lesion of the kind, however, was discovered, and the connection between the two maladies is unknown. Affections of the nasal fossae may be complicated by various ocular lesions. Acute rhinitis occasions dacryocystitis, conjunctivitis and obital abscess. Simple hay fever exhibits an oculo-nasal variety. Generally, however, acute rhinitis causes nothing more than pain in the eyes. Chronic hypertrophic rhinitis, so rich in various reflexes, is sometimes accompanied by dacryoconjunctivitis, phlyctenular conjunctivitis, spasmodic astigmatism, myopia, asthenopia, cataract, and even exophthalmic goitre.

Atrophic rhinitis produces a special dacryocystitis and sometimes a partial optic neuritis. It aggravates wounds of the cornea, which must be protected in every way against infection of nasal origin. Various diseases of the nose, and in particular mucous polyps, determine different ocular reflexes. The same is true of intranasal operations and even of galvano-cauterization.

Affections of the sinuses play a predominant part, which is explained by the fact that the orbit is surrounded in all its parts by those cavities. Empyema of the maxillary sinus pushes the eye upward, produces tumefaction of the lower lid, chemosis, iritis, and exophthalmos. It is more difficult to interpret orbito-facial neuralgia, paralysis of the third pair, and atrophies of the optic nerve. Diseases of the frontal sinus are well known to oculists, as is also sphenoid and ethmoid sinusitis (photophobia, blepharospasm, periorbital neuralgia, optic neuritis, scotoma). The mode of causation of these accidents is sometimes very simple—as, for instance, in cases of infection of the eye through the lacrymo-nasal canal. The vascular theory of Ziem is based upon the connections between the circulation of the eye and nose. A stasis in the nasal fossae gradually arrests the circulation in the orbit and eyeball. By relieving the nose the circulation of the eye is re-established. The nervous theory of Berger is founded upon irritation of the terminal branches of the trigeminus. All these hypotheses have an individual value. In cases of ocular troubles, also, it is often necessary to examine the nose, and make use of cocaine in order to learn whether it abolishes the reflexes.—*Post Graduate.*

PEDIATRICS.

UNDER THE CHARGE OF

T. PINCKNEY WARING, M. D.,

SUPERINTENDENT TELFAIR HOSPITAL, SAVANNAH, GA.

Tetany in Infants.—(*American Journal of Obstetrics*, June, 1898). Samuel S. Adams, Washington, D. C.—Tetany is a disease only recently isolated. He says he has occasionally seen carpo-pedal contractions in infants suffering from some general disease, but had not recognised such symptoms as tetany even as late as 1892.

Tetany is a condition characterized by intermittent or continuous tonic contraction of muscles. It usually affects the muscles of the extremities, but may involve those of the face, neck and trunk. When limited to the hands and feet it is usually called carpo-pedal contractions, or arthrogryposis; but later writers declare that such spasms are only phenomena of the same general condition. Laryngismus is usually associated with tetany of infants, but is seldom observed in older children.

Tetany may occur at any age, but is more frequent in infancy and early childhood. It is more common in boys than in girls. There is the greatest variety of opinion as to the causation. Those given being, nervous excitement, toxic irritation, rachitis, cramotobs, sepsis, anaemia of spinal cord and other infectious diseases, and toxines of all kinds.

Our knowledge of the pathology of this condition is very uncertain. The pathological findings of different observers are given by Sachs in his work, but "no constant anatomical lesions have been demonstrated in tetany," and all theories are purely speculative.

The symptoms are purely objective in the infant and occur suddenly, without premonition, the tonic spasm usually being ushered in by a cry indicative of an intensely acute pain. The cramps usually begin in the upper extremities, but are rarely confined to them and extend to the lower. In some the flexors alone are involved, while in others both flexors and extensors. The tonic convulsions are bilateral, but the same groups of muscles on both sides are not always affected at the same time. The position assumed by the hands is pathognomonic, "the contraction of the thenar and hypothenar muscles causing 'bowling' of the palms of the hands;" the fingers are flexed at the metacarpal articulation, while the phalanges themselves are extended; the thumbs are adducted across the palm and may remain in this position throughout the attack, but in some cases the thumb is firmly flexed and held under the index finger; the hand is drawn toward the ulnar side and flexed upon the forearm. The thighs and legs may be extended or flexed, the foot extended into talipes equinus, and the toes flexed. In some severe cases the muscles of the head, neck and trunk are involved. If spasms of the thoracic muscles occur, dyspnea, or even cyanosis, may be present. The pain accompanying the spasm is intense and will cause the infant to cry out.

Trousseau's symptom, which is considered pathognomonic, consists in exerting pressure on the large nerve trunks and arteries during the stage of relaxation, thereby eliciting tonic contractions in the muscles supplied by them. Increased mechanical excitability is a still more striking symptom of the condition, a single touch with a percussion hammer upon a nerve trunk being sufficient to produce contraction of the muscles supplied by the nerve. The rational treatment is to remove the cause, for tetany is always dependent upon some other condition. Thyroid feeding in idiopathic cases, raw or slightly cooked thyroid gland, gradually increased until daily dose of thirty grains are taken. The conclusions are the same as those of Maestro:

1. The administration of the thyroid gland is extremely useful in the treatment of idiopathic tetany in children, as it always diminishes the intensity and the frequency of the attack and shortens the duration of the disease; it also hastens the arrival of the latent period which precedes recovery.
2. The treatment is well tolerated by the children.
3. The organic changes, the digestive functions and diuresis are not notably influenced by this mode of treatment.
4. The circulatory and respiratory functions are accomplished normally during this treatment.
5. In very young children, on account of their perfect tolerance, it is useful to administer the thyroid gland, raw or slightly cooked, internally.
6. With the exception of certain peculiar cases, it is not necessary to suspend the treatment from time to time.
7. The daily dose is thirty to sixty grains.
8. This treatment is not opposed to the symptomatic treatment, as it does not present any incompatibility with the methods ordinarily employed.

If the cause be sepsis, antiseptic measures should be employed. The bromides may diminish the severity of the paroxysms and should be administered. The general health, especially the nutrition, of the infant should be carefully supervised.

THE X-RAY DIAGNOSIS IN CHILDREN.—A. V. L. Brokaw, in *Annals of Pediatry* for June, gives an interesting article on the use of X-Ray in children. He regrets the influence given to the idea that the radiation of the X-Ray is injurious in children, because of their delicate tissues. He claims this not is so. Thousands of exposures have been made, and accidents are rare. He claims if the static reaction is used instead of the induction coil, accidents will not occur at all. In addition to the usual applications, such as foreign bodies, fractures, etc., he recommends it particularly for the diagnosis of calculus in any part of the urinary tract.

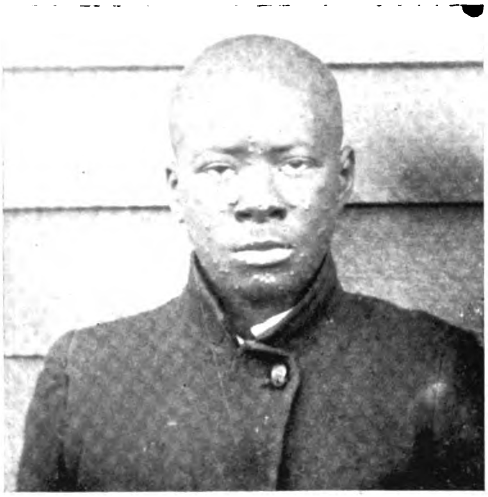
SOME POINTS IN INFANTS' FEEDING.—Edwin Rosenthal (*Annals of Gynecology and Pediatry*, June, 1898,) in a short article discusses modified foods for infants. Next to mother's milk, cow's milk may be considered and should be considered the best and safest food. It can be obtained always and in sufficient quantities to answer every purpose. To make it acceptable to the child many methods have been devised.

As known to the profession, modified cow's milk is prepared in two ways: 1, in the milk laboratory, and 2, in the home. The milk laboratory has the correct technique, and so its preparation is as correct as can be obtained. There is, however, the element of cost which makes it above the reach of many, and besides, as the laboratory is a corporation and savors very much of a monopoly, it is not looked upon with much favor. Again, from an ethical standpoint, objections can be raised, as the process and the word are both patented.

Milk as it comes from the dairy is unfit to be given to the infant unless properly prepared. It is well in the first place to heat the milk, and to do so rapidly, but not to scorch or burn it. Nor is it necessary to continue the application of heat as is done by the so-called sterilization. This milk so prepared can then be mixed with any of the ingredients which experience or practice teaches you to use. The simpler the process the better. In the early days of the infant's life, I may say from the first day, I use the cow's milk (the best quality such as is obtained direct from the cow, and which is simply heated, without the cream being removed), diluted with an equal part of boiled water. To this mixture I add a small quantity of salt (the common table salt), not enough to be tasted. This is the food for the new-born infant, and two ounces are given once every two hours. While I give this I examine carefully the stools of the child to see if digestion takes place properly. I gain time so that I can choose the proper food that this infant will require. Often I find that this is alone sufficient. If I find that digestion is incomplete, then I begin the use of other materials, always, however, depending on the cow's milk as the basis for further feeding. These materials are chosen with due care, and I am always guided by the condition of the stools. Barley-water and oatmeal-water are what is commonly recommended as dilutents, as well as modifiers. This is purely empirical, and is frequently ordered and chosen without regard to the true condition of the child, or what it really requires. Frequently one meets the want, however, and for that reason it is often used in every case. I make a simple distinction when I desire to use either of these preparations, and that is, whether the bowels be constipated or not. If this condition is due to the food simply, and its use is indicated, I use the oatmeal-water in cases that suffer from constipation, and the barley in those that have diarrhœa. Sometimes, in cases of malnutrition, where diarrhœa is the symptom, barley-water is useless or does not answer the purpose. I then use the following formula, and I can claim as much good result therefrom as from any form of modified home-made food. It is known as the flour-ball food, commercially Imperial Granum. It is made as follows: Plain wheat flour is boiled in a bag for five hours, then dried, broken open, the rind rejected, and then grated into a powder. I take of pure milk (mixed and scalded) one pint. Of sterile water, one pint; of the boiled flour, a heaping tablespoonful, bit of cinnamon bark (sometimes to give some flavor with certain children) and the common table salt.

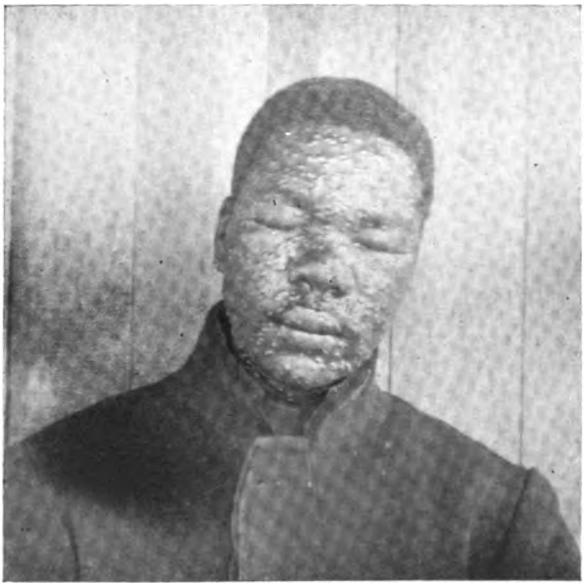
When milk is contraindicated he uses pure albumen in the form of white of egg and water, Eskay's albuminized food, or Gaërtner's Mother-Milk. He emphasizes the use of salt in all forms of food.

A NEW REMEDY WHOOPING COUGH.—Dr. Bushdraghi (*St. Louis Med. Era*) gives the following valuable advice on this subject: In a little child, nothing is better than a placid sleep, durable and reparative. To obtain this in my cases, I have employed trional in doses of from 1.10 to 0.50 gramme, according to the age of the children. I have not seen any inconvenience from it. It has been tolerated perfectly well; the sleep has been interrupted by some efforts at coughing, but the sick child has again gone to sleep as if nothing had happened. In a few more obstinate cases I have added a spoonful of 1 per cent. solution of chloral hydrate.



EDWARD JOHNSON.

First Eruption January 22nd. Photo January 28th, 1898.
Average Case.



HENRY CONYERS

Worst case, aggravated by exposure and syphilitic dyscrasia.
Eruptive Disease at State Colored College.

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ORIGINAL COMMUNICATIONS.

OBSERVATIONS ON THE RECENT CASES OF ERUPTIVE FEVER AT THE STATE COLORED COLLEGE.*

By WILLIAM RICHMOND LOWMAN, A. M., M. D.
Member S. C. Medical Association; Member American Medical Association; Surgeon Atlantic Coast Line; Ex-Member S. C. Board Medical Examiners; Censor Medico-Chirurgical College of Philadelphia, Etc.; Member Naturla Science Association of America, Etc., Orangeburg, S. C.

Owing of the diversity of medical opinion, expert and general, concerning the epidemic of eruptive fever that has appeared at various points in our State called by Peters, Beckett, Sylvester and others Varicella—by Kennedy, Stuart and others a modified form of Variola—and Impetigo Contagiosa by Wurtenbaker—it will probably be of some interest to give the history of the socalled epidemic as it appeared at the State Colored College at Orangeburg.

By way of preface, it may be well to remark that the season preceding has been one of epidemic potencies spread over the entire world—the plague in India and China, the yellow fever in the torrid zone extending to the temperate, and the outbreak of eruptive disease throughout the Southland. Whether due, as has been the suggested cause, of many of the outbreaks that in time past has lent devastating power to pestilences, to precipitation of germs from other spheres than ours in cosmic dust, it is nevertheless true that the atmospherical and other conditions seem not only to have been favorable to the development and spread of infectious epidemic disease but also has rendered other diseases and ills to which human flesh is heir more tenacious and fatal in the while.

While varicella of a mild type was prevalent in our state at all points where the suspected cases of variola developed, it seems that all the cases of the so-called malignant types of the eruptive disease can probably be traced back to Greenville as the distributing point for our state, for which honor (?) Greenville, I believe, is indebted to the hustling "Gate City of the South," whose motto is "Excelsior" or first in everything!

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* Read before the South Carolina Medical Association at Harris Springs in April.

I learn from the chairman of the Greenville Board of Health that the eruption appeared on the first Stenhouse case on Dec. 14th, 1897. James Montague, the first State College case, left the Stenhouse, where he had been several days, on Dec. 2d, coming by way of Spartanburg to the college at Orangeburg, where the disease appeared on him on December 17th. It is therefore possible for Montague to have been infected from the same source as Stenhouse. Granting this to be the case I only ask that you observe the dates.

Cases at the State College.—No. 1. Jas. Montague, adult negro, aet. 21, mahogany color. Probably exposed to infection at the Stenhouse previous to Dec. 2d. No prodromata; eruption first appeared on Dec. 17th, developing in distinct crops, the first vesicles beginning to dry within two days and scales to drop in fragments in six days, all of which had fallen by Dec. 25th. No febrile movement detected before the eruption. Not confined to bed at anytime during attack. Eruptive points very limited. Was diagnosed as varicella by college physician; no treatment given.

No. 2. J. L. D—, adult negro, dark mulatto, aet. 24. Slight febrile movement on day preceding eruption which on Jan. 2d, appeared on arms and chest with about eight papules and vesicles. On the following day another crop was visible on neck and face, also an increased number on chest and arms. No pain in back, no chill, vomiting or headache. Drying or dessication set in five days after first eruption-papule, vesicle and scab being found side by side. Not confined to bed at anytime; no treatment given.

No. 3. H. C. H—, negro adult, light mulatto, aet. 20. Taken at Ft. Motte. Had not opportunity of noting febrile movement at onset. Eruption first appeared Jan. 2d, '98. Returned to college on Jan. 5th, driving through country and the weather quite cold, still the patient had no cough or cold or complications of the mucous surfaces. Slight headache for two days. Eruption very diffuse. In bed three days after return. One of the worst cases. Some of the vesicles had a pustular appearance but on puncture there was complete collapse, proving that there was no reticulation, and fluid exuded was a thick serum of an alkaline reaction. No discharge, no smell, no umbilication, no secondary fever and consequently no delirium. Treatment: Dilute solution of pot. bitartrate while eruption was at its height. Uninterrupted recovery; no pitting.

No. 4. I. L. H—, negro adult, color black, aet. 21. Slight febrile movement on Jan. 3rd, a few papules and vesicles made their appearance on the 4th, followed by others on the 5th and 6th. Dessication took place very quickly, the scales being nearly all off by the 10th. Not confined to bed, no chill or pain in back. No fever after Jan. 3rd; no treatment

No. 5. R. H. B—, adult negro male, black, aet. 24. Slight headache Dec. 31st. Eruption of a few vesicles on Jan. 4th, second crop on 6th. Scales began falling on the 9th, nearly clear by 11th. No chill, no pains, no fever, not confined to bed, no treatment. Vaccinated on the 12th by Dr. Stuart and on the 20th by Dr. J. W. Lowman—both places took.

No. 6. G. W. B—, light colored mulatto adult, aet. 18. Vomited once Jan. 2d. Headache 3rd. No chill but slight pain in back on 3rd. Temperature 102° evening of Jan. 3rd. Diffuse eruption showed on the 4th. Some of vesicles had pustular appearance. Confined to bed two days. No secondary fever. Scabs began to fall on the 13th. Treatment: Two doses of antikamnia, 10 grs. each on the 3rd. An occasional dose of pot. bitartrate during height of eruption.

No. 7. Scott H—, colored boy, black, aet. 16. Slight febrile movement and headache on Jan. 2d. Eruption of a few vesicles on the 3rd. No chill, no backache, no treatment. Clear of scales by the 13th.

No. 8. Perry G—, adult negro, black, aet. 30. Feverishness and nausea on evening of Jan. 5th. Took pills that night. Eruption slight on Jan 6th and very diffuse by evening of the 8th. No pain in back, no chill. Scabs began to fall on the 14th. No secondary fever. No scars or pitting, only dark pigmented spots slightly elevated above the skin.

No. 9. W. T. J—, negro boy, black, aet. 20. Slightly indisposed Jan. 7th, discrete eruption on the 8th. Scabs began to fall by the 16th. No treatment. Vaccinated on the 20th—took.

No. 10. Henry C—, negro adult, black, aet. 22. Broke quarantine Jan. 8th. Could get no railway transportation so walked to home near Sumter, remained there ten days and returned by crosstie to Orangeburg, sleeping out at night. Returned to college campus on the 24th, with eruption in full bloom. This was the worst case at the college. No opportunity of observing prodromes. Several hundred vesicles and pustules on face, neck, arms and chest. Traces found of buboes, so conclusion was drawn that the case was complicated by syphilitic dyscrasia as well as aggravated by exposure. Considerable ophthalmia and swelling of naturally heavy features. No eruption however appeared on the conjunctiva. Several vesicles appeared on lips. No affection of the mucous surfaces, no smell, no discharge, no umbilication, no pitting—after recovery slightly elevated dark pigmented spots remained where scabs were. No secondary fever appeared. Treatment: Bowels kept in a laxative condition with pot. bitartrate.

No. 11. J. B. P—, negro boy, light mulatto, aet. 17. Vaccinated on the 10th—took well. Eruption discrete appeared on Jan. 22d and 23d, dessication almost complete by 27th. Eruption only on face and arms; no treatment;

No. 12. Edmund J—, negro boy, black, aet. 16. Vaccinated on 10th—took well. Eruption on 22d, still more diffuse by 24th. Dessication set in in five days after and desquamation in seven; no treatment.

No. 13. Monroe S—, negro boy, black, aet. 19. Vaccinated on 10th—took well. Eruption in successive crops on 22d, 23d and 24th in discrete form. Dessication and desquamation followed in a few days; no treatment.

No. 14. Willie H—, negro boy. Eruption on Feb. 14th of fourteen papules and vesicles on neck, face and arms, second crop of about a like number on face and chest and a few more on original sites on next day. No fever; no treatment.

No. 14. Eugene M—, bandmaster, aet. 19, light mulatto. Successfully vaccinated in August, 1897. Taken with slight fever and headache on Feb. 24th. Eruption appeared in crops, first on arms and chest on the 26th, second on face on the 28th, and third crop on face and neck on March 2d. Exfoliation began on the 6th. Treatment: Salol. phenacetine and quinine till the eruption appeared, then pot. bitartrate as a laxative.

Observations in Above Cases.—The following observations apply to all the above mentioned cases:

No swelling in any of the cases except in number ten.

No ophthalmia in any of the cases except number ten (syphilis and exposure complicated number ten).

No coryza, salivation or affection of the mucous surfaces in any of the cases.

No mucous vesicles or pustules.

No reticulation in any of the vesicles examined.

No high fever, no secondary fever, no delirium.

No discharge, no smell or peculiar odor.

No umbilication or pitting in any of the cases.

Only one of the original eight cases had been vaccinated, therefore there was nothing to prevent at least some of the unmodified cases from being severe and typical had the disease been true variola. So far as I can learn there never has been an epidemic recorded in which all of the unmodified cases of variola were of a mild type. The cases eleven, twelve and thirteen, all of which were very mild in type even for varicella, the eruption appeared twelve days after vaccination, which was successful in each instance, and in successive crops, papule, vesicle and dried scab being seen side by side. In case fifteen, several months after successful vaccination, we had the disease showing itself in well defined successive crops. The eruption in all the cases was globate, standing out on the surface clearly defined like drops of water on a greasy surface. The spots after desquamation in the mulattoes appeared lighter than the surrounding skin, turning in a few days to a shade considerably darker than the natural skin. In the pure or black negro the spot at first had a light centre with a primary mahogany areola and a subsidiary areola of jet black, the whole in a short time turning much blacker than the surrounding skin from a collection and deposit of pigment. The papules at the onset and the spot after desquamation possessed none of that hard, shotty, tubercular feel that is said to be constant in variola.

It is a matter of interest when we consider the limited extent to which this epidemic was confined at the State Colored College. The attendance at the college was about five hundred at the beginning of the so-called epidemic, of which number about two hundred boarded in the college building, the remainder out in town. Also remember that nearby is the Claflin University separated only by a fence. Before the disease manifested itself a revival had been going on at the Claflin and the students of both colleges attended and intermingled. And although Montague was confined to his room as soon as the eruption appeared, the disease spread among the inmates of the two adjacent rooms and early in January all the first five and the others who had been directly exposed were transferred by order of the attending physician to a "pest house" and the rooms fumigated. No case of the disease appeared at the Claflin and only fifteen cases have appeared at the State College. One case appeared in the city which the attending physician pronounced variola but this could not be traced to the college. It is remarkable, I say, if the disease is to be pronounced variola. It is true that quarantine was established but the quarantine of the college grounds and the pest house shut in two hundred students while it shut out in town three hundred students. Whittaker, in the American Text-Book of Practice, says that smallpox may not be studied without reference to the old masters and quotes Watson as saying: "There is no contagion so strong and sure as that of smallpox and none that operates at so great a distance."

"Susceptibility to smallpox is almost, if not quite, universal," says Whittaker, and yet only fifteen cases of this eruptive disease developed in the institution. It is quite probable that the great majority of them had previously had varicella. Not a single female developed it, although only a wooden partition separates the sleeping apartments of the sexes on all floors, and on the boys' side the infection only manifested itself in three adjacent rooms.

When the pest house had been established the attending physician, Dr. J. W. Lowman, having diagnosed the cases as varicella, he and the president of the college selected two young men to nurse and cook at the pest house who had had varicella in childhood. One of these young men had roomed with Montague, whose eruption appeared on Dec. 17th. These two were confined in the pest house to cook and nurse if necessary, The pest house, which had at one time as many as eleven cases of the eruptive disease, consisted of two rooms twelve by twelve feet each, one room being used for cooking and the other as a sleeping room for the entire number. These two young men were confined in the pest house with such surroundings as described for over a month and yet neither of them contracted the disease—is not this very good negative evidence as to the nature of the epidemic? In the case that appeared in town, reported to the Board of Health on Jan. 7th, by some misapprehension the attending physician did not vaccinate the eight other inmates of the quarantined house until the 24th, and still only those of the household who had not had varicella developed any eruption whatever—two young children showed a few vesicles.

It is to be noted that the incubative period of small pox as given by all authors is never over fourteen, or according to Marson, thirteen times twenty-four hours exactly, never longer than fourteen days. Varicella is given an extreme limit of seventeen days. The first case of the disease appearing at the State College, as previously stated, was that of Montague, who left the Stenhouse on the morning of Dec. 2d, and the eruption (three papules) first appeared on him the evening of Dec. 17th, showing a sure incubative period of more than fifteen days and a probable incubative period of sixteen—presumptive evidence in favor of varicelli.

Heberden says that there never was a case of variola without secondary fever and most cases delirium. In not one of the cases at the State College was there any secondary fever because no pustulation, discharge or consequent fever from reabsorption; no delirium. There was vesiculation, drying and scaling off in granular scales and not in a solid mass; scab as in variola. The scab in varicella is thin and granular and falls in fragments, leaving no cicatrix only in exceptional cases is the true skin sufficiently involved as to leave a pit or permanent scar. In these cases there was no umbilication because the deeper tissue was not involved, no reticulation and consequently no possibility of a retraction into softened and broken-down subcutaneous space made by necrosis of the true skin and cellular tissue. Instead of destruction of the pigment cells and consequent bleaching of spot for some time, we have a surrounding deposit of coloring matter in the negro skin and the whole spot in a short time becomes very much darker than the adjacent derma, therefore an absence of pitting and instead a slightly elevated pigmented spot seems to establish the diagnosis of varicella.

General Observations.—One of the subsidiary diagnostic indications of variola as given by Whittaker is a petechial or fine macular eruption appearing on the second day in Simon's Triangle whose apex is the umbilicus and whose basal points are the knees, in some of the last cases at the State College this eruption was sought for but was not found

In variola the crusts fall in about fifteen days or longer, owing to the severity of the attack (Whittaker).

In variola "the eruption first appears on face and scalp and proceeds downward regularly and rapidly. Pain in the back is peculiar in its intensity. Strong men stagger as if drunk. Temperature rises rapidly. The true eruption appears the third day after chill. Illness sets in suddenly." (Whittaker).

The mortality in smallpox is always high. "The mortality even in our day ranges at 20–40%," (Whittaker). While a death was never known from uncomplicated varicella (Trousseau). Variola is said to have an especial affinity for and fatality in the negro race. And yet so far as I can learn there was not a single (authenticated) death from the disease in our state—only four deaths out of several hundred cases in Atlanta and these could not be traced directly to the effect of the disease in question.

Swelling is constant in every case of unmodified variola, producing such distortion of the features as to render the patient almost unrecognizable. The distal extremities are always affected, the swelling and pain intense—"paronychiæ upon every finger." (Whittaker).

As to the invasion, Whittaker says: "Invasion is ushered in by a chill, which is as a rule violent, with a rise of temperature to 103-104° on the first day. The patient is put to bed, or if on feet staggers as if drunk. Anorexia, vomiting, jactition, insomnia and severe headache set in at once. Above all other signs, pain in the loins assumes prominence. It accompanies the fever from the start and subsides only with its fall at the appearance of the eruption on the third day." The fever may reach 106 or 107° by the time of the eruption. The ratio of pulse and temperature usually correspond while the respiration often loses its ratio from direct affect on the respiratory centre. The above of course describes unmodified cases of variola.

"Variola benigna are examples of mild natural smallpox such as have occurred no doubt at all periods to a few favored individuals, and in which, fortunately for the objects attacked, the disease leaves no trace behind," (Marson). Characters assigned by Gregory to variola maxime benigna or variola vesiculosa (or variola modified by vaccination) are: that it has at least forty-eight hours premonitory fever; that there are tubercular elevations of the skin; that an umbilication is always present. The cases at the State Colored College possessed none of these distinctive points. As far as I can learn there is not recorded in medical literature an epidemic in which all the cases were benignant variola, even in the mildest epidemics of variola vesiculosa. Most authors say that varicella is very uncommon in adults. It is said that the percentage of adults affected in an epidemic of varicella is about eight per cent. of all cases. With the epidemic of varicella as it prevailed at the colored college in our state, if these cases of suspected variola are to be placed in that category, the per cent. would probably be far less than that. The students at the State College are chiefly adults and therefore this test could not be applied to the disease as it prevailed there.

Varicella has very slight prodromata, the eruption shows itself in successive crops over the whole body irregularly. Vesicles in grave cases of varicella leave a round black spot, according to Heberden. These spots were present in nearly all the cases at the State College. The vesicles in all the cases were epidermal, conoidal and globate, on surface, rather than in derma, there was consequently no umbilication or pitting. Cross says: "An elevation after the scab separates determines the question." This symptom being a prominent one in all of the State College cases, I believe you will agree with me in concluding that the epidemic as it existed there was not variola.

Impetigo Contagiosa.—Duhring says: "Impetigo Contagiosa may be defined as an acute inflammatory contagious disease characterized by superficial vesico-pustules or blebs with pale or dark yellowish crusts. The lesions are inclined to be flat, soon dry up and crust over. The disease runs its course in one or two weeks, appearing generally first upon the face, then upon the extremities, attacking children, and is apt to be mistaken for varicella." We see from this description that there is a closer resemblance between the State College epidemic and Impetigo Contagiosa than between the disease and variola, but inasmuch as there was no inclination in the lesions toward flattening, but they rather were conoidal, acuminate or globate, I must incline to the opinion that the disease was varicella globularis, (Willan).

It has been claimed that vaccination prevented the infection at other points in the state. As to the epidemic at the State Colored College, I call attention to the fact that five out of the fifteen had been successfully vaccinated, three of whom were vaccinated twelve days before the eruption appeared, one in August, 1897, and the other several years before.

The following points of difference is the consensus of all authorities at hand:

DIFFERENTIAL DIAGNOSIS.

VARIOLA.	VARICELLA.
1. Incubation 13 times 24 hours.	1. Incubation eight to seventeen days.
2. Violent chill at onset.	2. Seldom any chill.
3. Fever 102° or more first day.	3. Fever slight.
4. Intense pain in back.	4. No pain in back.
5. Severe headache, anorexia, vomiting.	5. Slight headache.
6. Eruption third day after chill.	6. Eruption first or second day.
7. Eruption first on face and scalp.	7. No constant point of eruption.
8. Eruption spreads rapidly downward.	8. Eruption spreads irregularly in crops.
9. Eruption first tubercular papule, then vesicle, then pustule.	9. Eruption soft and yielding, rapidly vesicular, seldom pustulates.
10. Eruption umbilicates.	10. Never truly umbilicates.
11. Pustules break and discharge.	11. Vesicles never discharge.
12. Discharge has very offensive odor.	12. Vesicles have no odor.
13. Scabs fall in mass.	13. Scabs fall in granular flakes.
14. Pitting constant.	14. Pits seldom.

VARIOLA.	VARICELLA.
15. Always secondary fever.	15. No secondary fever.
16. Scars deep and cicatricial.	16. No scars but elevated pigmented spots.
17. Affects mucous surfaces always.	17. Seldom affects mucous surfaces.
18. Ophthalmia with pustules, sometimes destroying eyesight.	18. Ophthalmia seldom.
19. Sequelæ serious.	19. Slight, if any sequelæ.
20. Swelling constant.	20. No swelling unless complicated.
21. Vesicle reticulated.	21. Vesicle simple.
22. Paronychia present.	22. No paronychia.
23. Mortality always high.	23. Never directly fatal.

I herewith present photographs of the types of the disease as it appeared at the State Colored College. The photograph of Montague (after recovery), of J. B. P. (mild case six days after eruption, showing dessication and partial desquemation); of Edmund J. (average case five days after eruption, showing crops and drying process), and of Henry C. (worst case, aggravated by exposure and syphilitic dyscrasia) during height ot eruption and after recovery, showing absence of pits and presence of elevated pigmented spots.

This paper is based on notes of the college physician, and personal notes taken in twelve visits to State College "pest house."

DISCUSSION ON SHOCK.*

BY HUGH M. TAYLOR, M. D.,
Professor Practical Surgery, University College Medicine, Richmond, Va.; Surgeon Virginia Hospital, etc., Richmond, Va.

PREVENTION OF SHOCK.

Dr. Hugh M. Taylor thought that in order to facilitate the discussion of this phase of the subject it would be well to notice, 1st, Shock induced by mental impression; 2d, shock incident to trauma, i. e., fractures, dislocations and extensive contusions and lacerations; 3d, the preventive measures indicated prior to, during, and subsequent to an operation.

While we must admit our inability to prevent the mental impression which culminates in profound shock and later in the so-called traumatic hysteria or neurasthenia, he would urge that it may be within the surgeon's power to limit the degree and duration of psychical shock. Just as we educate the non-traumatic neurasthenic to realize that they are not hopelessly sick and finally are well, in like manner he thought we can, certainly in some instances, by words of encouragement, remove the idea in the minds of the injured that the injury is serious or lasting. This idea was probably common experience and its emphasis out of place, but since appreciating it fully he was of the opinion that he had lessened suffering, and in railroad cases especially had sent men back to their work earlier and had possibly avoided some troublesome suits for damages.

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* International Association of Railway Surgeons, Toronto, July 6, 1898.

In the prevention of shock incident to trauma he thought our efforts must largely be directed to limiting the extent and duration of shock. Notably the railway surgeon usually finds his patient shocked when he first sees him, and his interest is largely focused in limiting existing shock and in preventing added shock. The inquiry naturally arises, what are the preventive measures at our command available in traumatic cases to limit shock, to prevent its increase and continuation?

Assuming that mental disquietude, pain, hemorrhage and sepsis are the most important etiological factors in inducing shock, it seemed most important to reassure the alarmed patient, relieve pain, prevent hemorrhage, or remedy its consequences, and to guard against sepsis. Words of encouragement were, he thought, potent for good, and he would impress the benefit incident to the timely administration of morphia to relieve the pain. Morphia, he thought, did good, not only by relieving pain (an important factor in inducing shock), but he also regarded morphia as one of the best of heart tonics. He recalled the fact that the anodyne effect of morphia is not indicated in all cases, as pain is not severe in proportion to the gravity of the injury. He had often seen a mashed finger attended by excrutiating pain and profound shock, while in a case of a penetrating wound of the abdomen, even with visceral lesions, there may be little pain, and in some instances no shock.

Some of the speakers had disapproved of the tendency to confuse the effects of hemorrhage with those of shock. For his part, he thought, the conditions, i. e., the effects of shock and hemorrhage, were so closely related that they should be considered together. He thought we could claim to have shock in all cases of profuse hemorrhage, i. e., the shock of hemorrhage, and possibly hemorrhage in all cases of profound shock, this last being true if we admit in shock and vaso-motor paresis we have the blood accumulating in the pelvic and abdominal vessels—the patient bleeding even to death into his own blood-vessels. He certainly could not agree with some of the previous speakers who failed to recognize in hemorrhage a most important and frequent cause of shock. He thought the shock of hemorrhage was just as much shock as the shock incident to depressed fractures, or that from a ptomain poison from any source. The symptoms of shock and those of hemorrhage are the same, and there are no clinical features by which we may tell the syncope of shock from that due to hemorrhage, and no changes other than those ocular demonstrations by which we can differentiate the effects of shock from those of hemorrhage.

Shock, syncope and collapse were terms which he used synonomously, and each represented to him the condition of shock. To claim that the depression incident to hemorrhage was collapse or syncope and not shock was to his mind a distinction without a difference, and as such was misleading and unfortunate. He would urge that the most important mission of the surgeon is to secure hemostasis and prevent or remedy its inevitable sequelæ—shock. Shock without hemorrhage is common, but hemorrhage without the shock of hemorrhage is rare, and in minimizing hemorrhage he thought we prevent shock and limit its intensity and duration; while the contused and lacerated wounds, the type met with so frequently by railway surgeons, do not as a rule bleed profusely, he would ask if there were not many exceptions to this rule, and is it not a fact that not infrequently the patient has bled to syncope before he is seen by the surgeon, and that shock, nature's most potent hemostatic, has checked the bleeding? Often there is no bleeding at the time when the patient is first seen, but he is shocked, and it is eminently undesirable that shock should be added to shock by even a limited continued bleeding.

While not wishing to consider the technique best adapted to secure hemostasis and remove its consequences, experiencially he could endorse most emphatically the value of normal saline solution administered per rectum, subcutaneously, or directly into the vein. It is the remedy in which he has the greatest confidence, and he has used it freely and satisfactorily in the shock incident to trauma, hemorrhage, and in cases of post-operative traumatic and puerperal sepsis. In connection with the use of saline transfusion after trauma, he would recall the fact that the saline will pour out of open blood-vessels almost as fast as we can introduce it into the circulation, and therefore in conjunction with its exhibition we must close up vessels from which it could escape.

As an illustration, in a compound fracture of the skull with profound shock, the saline solution introduced into a vein in the arm immediately poured out of the skull wound, through a torn longitudinal sinous. Of course the patient was not benefited by transfusion. In another instance, a patient with his leg crushed off had also a torn perineum. Profound shock existed and transfusion direct was at once practiced. A tourniquet on the mangled leg sufficed at that point, but in spite of tight packing of the wound in the perineum with gauze, in a few minutes the saline solution was found puddled between the patient's thighs and of course no benefit was derived.

Another point in connection with the use of saline transfusion, which he thinks he has observed sufficiently often to warrant mentioning, is that the free use of saline transfusion, post-traumatic or post-operative, increases the amount of discharge from wounds. He has specially noticed this increase in connection with drainage after intra-abdominal operations, and it may be of service in diluting septic material and in flushing septic areas which we wish to drain.

An effect of interest and value incident to saline transfusion is its power to relieve thirst, to stimulate the action of the kidneys, skin and bowels, and the elimination of ptomain and other poisons.

He thought it was often a nice point to decide when to operate during shock to arrest hemorrhage or to prevent its recurrence with the advent of reaction. In his experience instances are not infrequent when operative interference was imperative to arrest hemorrhage and increasing or recurring shock incident to hemorrhage.

Very recently he had met with two cases which fully illustrated this point. One was a penetrating pistol wound of the abdomen, with visceral lesion in the shape of a perforation of the stomach and liver. An hour after the injury there was but little if any appreciable shock. Three hours after, in spite of active preventive treatment, the patient was collapsed. Shock presumably from intra-abdominal bleeding. A section revealed the lesions mentioned and free intra-abdominal hemorrhage. A second case occurred in connection with a celiotomy for pyosalpinx and adherent appendix. The patient was put to bed in apparently good condition. An hour subsequently the patient's pulse was 110, in two hours it was 130, and accompanied by the usual manifestations of profound shock. On reopening the abdomen free hemorrhage was found to have taken place from a tear in the broad ligament.

He thought one of the most perplexing problems we are called upon to solve, especially in abdominal and thoracic injuries, is to decide whether the shock is due to trauma per se or to trauma plus intra-abdominal or intra-thoracic bleeding. While in hemorrhage we should have the symptoms of shock plus the pressure symptoms of accumulated blood, he doubted if many could appreciate the pressure symptoms by the physical signs early enough to be of service. The differentiation is best made, he thought, by remembering that shock is, as a rule, immediate in its outset and reaches its acme at once, and in the absence of a continued causative influence is not progressive or lasting beyond reasonable limits.

The shock, syncope or collapse from hemorrhage is slower in its outset, often begins with or after reaction from the primary shock, and is progressive or recurring in character.

In connection with the prevention of shock, he thought, we might well consider the advantages and disadvantages incident to transporting patients to hospitals while suffering from shock. Added pain, continued bleeding, and the danger of infection through cutaneous or visceral wounds are prominent among the disadvantages of removing injured patients. The strangulated hernia, the mangled limb, depressed skull, and torn abdominal viscera had often, he thought, best be operated upon at once, and if need be sent to the hospital for subsequent treatment.

What can we do to prevent shock if we have time to prepare the patient for the operation? When such opportunity is afforded, he thought a great deal could be done to prevent shock. Whenever possible the preparation of a patient for a major operation should begin several days prior to the time fixed for the operation. If the patient is to go to the hospital, he thinks it is a decided advantage to have the patient in the hospital for at least forty-eight hours prior to the operation. Few patients unaccustomed to hospital life rest quietly for the first few nights of their sojourn in the hospital, while in a few days they get used to the hospital, nurses, etc. Whether the operation is to be performed at home or in a hospital, the surgeon can usually profitably occupy several days in ascertaining the weak points in his patient's physique and in doing all in his power to improve the resistance of individual organs and of the organism as a whole. Many a post-operative crisis is, he thinks, successfully passed by the careful preparation given prior to the operation. Notably the morale of the patient should be encouraged. The patient who goes to the operation full of courage as to the result, confident of recovery, expecting freedom from pain, and restored usefulness, is probably in a better condition to make a post-operative fight. All of the organs should be put in their best possible working order, but special attention should be given the kidneys, skin, and gastro-intestinal organs, which may be considered the great sewers of the body. It is his unvarying custom to flush out the kidneys and the bowels. The patients are encouraged to drink freely of water, and in order to secure this end he not infrequently prescribes a lithia tablet in a glass of water at prescribed intervals. Purgatives are given and intestinal antiseptics and fluid diet are prescribed with strychnia for several days prior to the operation. If necessary, sleep is secured by giving some simple hypnotic, preferably sulfonal, especially when preparing for an abdominal section and after alvine discharges have been secured by saline purgatives, he gives just before the operation a pint saline solution by the rectum. Not infrequently he gives mild purgative pills just before the anæsthetic is begun. He is careful to see that the operating room is warmed and that warm dry clothing surround the patient. He does not like for the anæsthetiser to begin the anæsthetic until the preparation of the patient for the operation is well advanced. We often hear, he fears, without heeding it as we should, the truism, "As well club a patient with a sand-bag as to shock him by too much or too prolonged anæsthesia." Too profound or too prolonged anæsthesia induces shock. It is not unreasonable, he thinks, to claim that too little may be equally a factor in producing shock, i. e., not enough to eliminate consciousness of pain. In any event we may claim that the judicious exhibition of the anæsthetic is important in the matter of preventing shock. He knows of no greater comfort to the operator than an intelligent anæsthetiser—one who knows when to push the anæsthetic and when to let up with it.

He seeks to guard against shock during an operation by working as rapidly as is consistent with completeness, and especially complete in limiting the loss of blood during the operation. He has at hand ready for immediate use during an operation, strychnia, digitalis, caffein, nitro-glycerin, saline solution, etc., and he is anxious to anticipate shock in the use of these remedies rather than to trust to them after shock has well set in. If the abdomen is open, hot saline is much depended upon in shock. He thinks it would be a part of the duty of the anæsthetiser to watch for shock and to apply appropriate remedies. Rapid surgery is not always complete surgery, and while he would not urge celerity at the expense of thoroughness, he regrets a failure to grasp and act upon emergencies promptly as they arise. Complete surgery limits primary and reactionary hemorrhage and prevents shock. Complete surgery wards off septic infection and the most dangerous of all shock, that incident to rapid ptomain absorption.

No time should be lost in getting the patient back to bed after the operation, as each half hour consumed in operation and dressing of the patient adds to the degree and danger of shock. Dress, dry and warm the patient as quickly as possible. He usually orders a pint of hot saline solution and an ounce of whiskey to be given by enema as soon as the patient is in bed. He considers it all important to dry the patient by friction with dry towels or the hand. Hot water bags are useful, but must be watched so as not to act as a hot pack or burn the patient. If reaction is not prompt, treatment is continued by administering saline solution under the skin, by the rectum, or by direct transfusion if the case is urgent. He has not practiced it, but is inclined to think well of the practice of filling the abdomen with saline just before closing it. Strychnia, digitalis, caffein, nitroglycerin, atropin and morphia are administered at intervals, and cold tea and coffee may be given with advantage by the rectum. His experience impresses the conviction that patients treated along this line will with few exceptions recover from shock which is uncomplicated. He does not believe in the so-called prolonged shock, delayed shock, etc. In such cases, he thinks, we have shock plus hemorrhage or the ptomain shock incident to rapid sepsis, and in exceptional instances, fat embolism or venous thrombosis to contend with. In shock, hemorrhage and sepsis he recognizes the trinity of dangers common to traumas and surgical interference and their prevention secures against diminished local and septic resistance.

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DOUBLE MONSTROSITY—THORACOPAGUS.*

BY K. P. MOORE, M. D.,
Macon, Ga.

Was summoned June 5th, 1897, by Dr. H. A. Brown, then of East Macon, to see with him, Mary Ellen Parker, col., age 31, in her eighth confinement. Previous History good, and nothing unusual in present term of gestation, except *very large* and peculiarly pendalous

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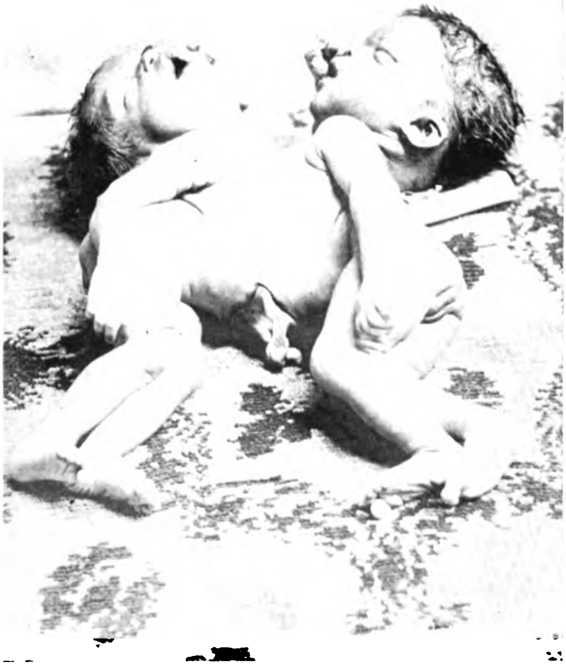
*Read before the Medical Association of Georgia, April 21st, 1898, by K. P. Moore, M. D., of Macon, Ga.



abdomen. Had had one pair of twins four or five years previously, both now fine children. Case had been in labor about 15 hours, in charge of a colored "granny," when Dr. Brown was called. The Doctor found head presented, and could see no reason for the delay, as there was a roomy vagina and pelvis; after waiting a reasonable time, and noting no advance he applied the forceps, and easily delivered the head, which was living at the time of delivery. Here the advance of the child ceased, and no reasonable traction or manipulation could deliver the body. The Doctor soon became convinced that there was some abnormality, and telephoned me to come over prepared to make a Cæsarean section, if it be deemed necessary. It was about two hours from the delivery of this head to the time of my arrival. There had been some progress in the labor when I arrived, and by carrying this head well up over the symphasis, I could make out a second head presented, just coming into the superior straight. Thinking only of an ordinary pair of twins, wedging each other into the pelvis, and thus preventing the advance of the first child, I attempted to carry the second one back into the uterus, but found this impossible. It now dawned upon us that we had to deal with a monstrosity of some kind; before decapitating the head now delivered, or undertaking any other operative procedure, I advised an attempt to deliver the second head by the forceps. While Dr. Brown administered the anæsthetic, the delivered head was held, by the old negro nurse, well up over the symphasis while I applied the instruments to the second head.

Notwithstanding the fact that the second head was high up and that we had one child's neck in the vaginal canal, I succeeded beyond my expectation in adjusting the forceps, and to my delight, had little or no difficulty in delivering the second head, and in close succession, the bodies. The children, I have no doubt, were living and vigorous at the beginning of labor and if the case had fallen into Dr. Brown's hands earlier and if he could have gotten help more promptly it is possible that this remarkable double monster might have been delivered alive.

The mother was washed and douched, the clothing and bedding changed and she was put to bed in an exhausted condition. Dr. Brown gave her close after attention and she made an uneventful recovery and continues in good health, now nine months since delivery.

It would hardly be profitable to consume the time of this Association in discussing the cause of such monstrosities; authorities do not agree, only as to the probability of both originating from one blastula of the yolk; but whether the blastoderm membrane presents two germinative areas, which, later, fuse more or less into one; or one area, which become more or less divided, will perhaps ever remain a matter of speculation. There are three principal or general divisions in these homologous twins, or double monsters, named according to the point of union; ciphalopagus, thoracapagus, ischiopagus;

and where the development proceeds equally, as in this case, they are found to be equal in size. But in embryo life there may be an unequal development, one may be normal while the other is quite rudimentary, and seems to form a mere appendage of the former. Such rudimentary fœtus may even become completely enclosed by the larger one (Müller).

It may be interesting to note that the law of unity of sex in these double monsters has been well established by modern observers and statisticians. In the Reference Handbook of Medical Sciences, vol. vii, page 13, the writer states that "for the past quarter of a century he had taken great pains in carefully examining several hundreds of specimens of human double monsters, and even larger numbers among the lower animals, which are to be found in the pathological museums in the principal large cities in the United States, and is able to state that he has never seen an exception to this law.

He further says "that the literature of teratology contains reports of not less than 500 cases of double human monsters, and great numbers belonging to the beasts and birds, and that there is not a single modern instance in which the male and female organs are found to coexist. In every case there is single sexuality." The brief reference to the literature at my command also seems to establish the fact that female double monsters are very much more numerous than males. The specimens I present are females, and are in every respect both well developed. Much time could be consumed in theoretical speculation, and in enumeration of the various forms and names of all manner of abnormalities, but this would be unnecessary presuming upon the time of this Association. My thanks are due Dr. H. A. Brown, of Macon, for courtesies in this case, and the mother of this monster owes much to his skillful management of her case and her safe recovery to health after such an ordeal.

OXALURIA—ITS CLINICAL MANIFESTATIONS AND TREATMENT.*

By R. R. KINE, M. D., ATLANTA, GA.

Oxaluria is not a disease, and can scarcely be classed as a diathesis, but is a condition close akin to cithaemia or uric acid diathesis.

If the elimination of uric acid is due, as stated by Vaughan, to breaking up of spleen nuclein and not to imperfect oxidation; that it is a measure of nuclein metabolism, then I am at a loss to account for oxaluria.

By the term oxaluria we do not mean the presence of a few oxalate of lime crystals transiently appearing in the urine, but to that class of cases where they appear in large quantities and continuously, also associated with nervous symptoms and imperfect digestion.

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*Read before Atlanta Society of Medicine

In such cases the vitality is not up to the normal, digestion impaired, most frequently accompanied with headaches, backache, irritability of nervous system, lassitude and hypochrondriasis, frequently irritability of bladder and in some cases haematuria.

It is claimed there are two sources of oxalate lime in urine; one within body, one without, said to be due to imperfect oxidation, the oxalic acid being secreted by kidneys combines with lime salts, forming the oxalate crystals, usually octehedra, rarely the dumb bell.

The acid phosphate sodium sometimes holds the oxalate of lime in solution in the urine. They are soluble in mineral acid (HCL), not soluble in acetic acid, and at times may obscure tests for albumen by acetic acid.

The crystals usually form in bladder, may form in tubules of kidney, and at times in urine after standing, due to decomposition of the uric acid and urates; are detected by the microscope. The presence of oxalate of lime crystals in the urine in excess is not particularly characteristic of any special disease, but are accompanied by a class of symptoms above mentioned, not as a cause of disease, but as a result of impaired digestion, ingestion of certain foods and imperfect oxidation, according to accepted theories at present.

It is to some of the clinical manifestations of oxaluria I desire to direct attention by report of a few cases.

Case I. Miss K. is from a neighboring town, age 22 years, an intelligent, cultivated lady, believing and practicing physical exercise, systematic bathing, walking and outdoor exercise, but a close student.

Complained of nervous manifestations, headaches, backache, at times irritable bladder, and passing blood in urine.

Had been treated by a prominent gynecologist: cervix dilated, uterus curetted with some little relief to dismenorrhœa, but not otherwise improved. No special evidence of pelvic trouble, urine about normal as to quantity, acid, sp. gr. about 1020. Containing abundance oxalate lime crystals, some blood corpuscles, slight trace albumen, no casts.

Gave patient pyrozone, 3 per cent. solution; diuretic tablets, lithia water and bitter tonic.

Urine soon became normal, crystals and blood corpuscles disappeared, nervous symptoms subsided, patient recovered. The bitter tonic I usually prefer is composed of strych. nit., fluid hydrastis colored, listerin and lactopeptin syr. with phosphates. Occasionally substituted liq. taka diastase for listerin to digest the starches.

Case II. Mrs. D. Fourth pregnancy, about third month. Suffering with severe headaches, backache, neuralgia and various nervous disturbances, impaired digestion. Urine about normal as to quantity, sp. gr. 1020. No casts, no albumen, but an abundance of the largest oxtahedral oxalate lime crystals I ever saw. She was treated with tonics, diuretics, nitro hydrochloric acid and lithia water, but with little relief until peroxide of hydrogen, diuretic tablets and bitter tonic were used, then the crystals disappeared, nervous symptoms relieved, and patient carried to full term of pregnancy, although she was threatened with miscarriage some three or four times.

Case III. Mrs. R. Third pregnancy, about seventh month. Suffering with irritable bladder, severe pains in back and left side, threatened with premature labor. Previous to pregnancy had been treated by two different gynecologists, who advised removal of tubes and ovaries. Urine normal as to amount and sp. gr., only a trace of albumen, no casts, but plenty of oxalate of lime crystals (octahedral) present.

Prescribed hydrogen peroxide in hot water with a diuretic tablet one hour before meals. For pain a capsule containing codeia, salol and salacine, later a bitter tonic of

℞. Strych. nit, gr. ss.
Fluid hydrastis, colored mer.
Glycerin, aa ℥ ss.
Listerin, ℥ iij.
Lactopeptin syr., with phosphates, ʒ s., ℥ viii.

Mx. Sig. Half tablespoon just before meals. Symptoms subsided, crystals disappeared. Patient had normal labor at full term.

Case IV. Mr. D., lawyer, 38th year, a hard student, overtaxed, with but little outdoor exercise. Digestion impaired, becoming very nervous, pain in back, some vesical irritation, headaches and insomnia.

Urine revealed some little pus, abundance of oxalate lime crystals, slight trace albumen. He thought he was taking "Bright's Disease of Kidney." He was given the usual treatment and instructed to take dumb bell exercise, chest expansion and tepid baths, which resulted in recovery.

Case V. Mrs. C., age 38, married 15 years, two children. Had blood in urine for some time, two years previous.

At this time, Oct. '97, severe nervous manifestations, with headache, backache, irritable bladder, frequent micturation and tenesmus.

Urine contains albumen trace, *blood*, some few blood corpuscles, *oxalate lime*, octahedral crystal abundant. Prescribed pyrozone, diuretic tablets and bitter tonic.

Nervous symptoms subsided, urine became normal, patient recovered.

Case VI. Mrs. B., age 30., pregnant, about four and a half months. Suffering with headache, impaired digestion, involuntary muscular twitchings of lumbar and abdominal muscles, unable to sit still in chair.

Urine acid, containing an abundance of oxalate lime crystals, trace albumen. Prescribed pyrozone, 3 per cent. sol. diuretic tablets, lithia water and bitter tonic.

Urine became normal, nervous symptoms subsided, went to full term and was delivered by her father, an intelligent physician, in South Georgia.

At confinement she developed a chorea, as he stated. By pressure on lumbar muscle and spine could produce spasm of corresponding extremity. Under tonics and diuretics she soon recovered. She has gone through a normal pregnancy since without any special disturbance.

Case VII. Mrs. S. Called in consultation. Pregnant four and a half months. Second pregnancy. Severe headaches, very nervous, disturbance of digestion, bowels constipated, partial paralysis of lower extremities—right the worst, abdominal muscles lax, uterus very flabby. Could not map out its outlines by manual palpitation. Urine sp. gr., 1018, no albumen, no sugar, some little pus, abundance large octahedral crystals, oxalate lime.

Prescribed pyrozone, diuretic tablets, bitter tonic, lithia water and laxatives. In one week urine normal, crystals and pus gone, uterus easily mapped out, paresis improved, nervous symptoms improved. Gradually recovered, and delivered normally at full term by physician of this city.

REMARKS.

In all cases where it is practical I instruct patient to take systematic dumb bell exercise, chest expansion and tepid baths of morning. This is done with a view to improve digestion, increase supply of oxygen to blood through lungs, to complete oxidation in the tissues and increase elimination by the skin. The treatment is directed to improving condition of stomach elimination by kindeys, and toning up the nervous system. The peroxide of hydrogen acts locally on stomach given in hot water early of morning, dissolves off the mucous coating and washes out stomach, and possibly supplies some oxygen to the blood.

The diuretic helps to eliminate by the kidneys, the tonic improves digestion, tones up the mucous membrane as well as the nervous system.

This general plan of treatment I have used with beneficial results in kidney lesions, also in cystitis.

Brusston states peroxide of hydrogen is eliminated by the kidneys and found in the urine.

This explains some of its beneficial effects, especially in structural lesions of kidneys and cystitis. I have been using a similar line of treatment to above in these cases with equally as good results.

PLACENTA PERVIA, AND OTHER OBSTETRICAL CASES.*

By O. B. MAYER, M. D., Newburg, S. C.

It has been remarked so frequently by members of this association, that the papers read before it receive too little discussion. I make this report of obstetrical cases hoping they will afford a subject for some discussion.

THE REABSORPTION OF LIQUOR AMNII.

Mrs. ——, a resident of Orangeburg Co., about the seventh week of her first pregnancy was attacked with chills and fever, accompanied by much nausea and vomiting, The chills and fever returned at intervals, but her nausea continued without any improvement. About the seventh month she went to Prosperity when her nausea and vomiting improved some, and there was no return of the chills and fever.

About the eighth month of her pregnancy I saw her, in consultation with Dr. A. F. Longford. She was very much reduced in flesh and strength. Her pulse was small and thready, her voice almost a whisper; the abdominal walls were so thin, and the uterus so flabby that the fœtus could be distinctly felt, and appeared to be loose in the abdominal cavity. A vaginal examination found the os dilated, and the head presenting, and no fluid could be detected in the uterus on bi manual examination. The Doctor and I agreed that it would be unwise to attempt to deliver her in her present condition. Rectal alimentation was tried, hoping to attain sufficient strength to enable her to be delivered safely. Her confinement, however, took place the next morning about daylight, and although saline injections were given subcutaneously as well as injections of strychnine, she gradually failed until she died about one hour later. The patient's mother, who had been a constant attendant during her entire sickness, says that at the sixth month her abdomen was quite large and prominent, and that after that it gradually diminished in size, and that no ammotic fluid was ever passed from her vagina.

Mrs. ——, at the eighth month of her third pregnancy was awakened one night by the sudden escape of blood in considerable quantity from vagina. She prudently remained quiet, and had me summoned by telephone. When I arrived I found considerable blood in her bed, and the vagina full of clotted blood. After moving this clotted blood I tamponed the vagina with iodoform gauze and gave opium and ordered absolute rest in the recumbent position. The remainder of the night was passed without any return of hemorrhage. A vaginal examination the next day found the placenta attached to the lower zone of the uterus. I advised an immediate delivery, and had a consultation to verify the diagnosis. I prepared to deliver her with the assistance of Drs. Gilder and J. H. McIntosh. The usual dangers to mother and child were anticipated, and I made all prepations for meeting them should they occur. Before commencing the delivery each assistant was assigned specific duties, viz.: Dr. McIntosh was to give the anaesthetic and take charge of the baby as soon as it was born. Dr. Gilder to assist in the delivery and after treatment of the mother. This is always a wise arrangement, as it prevents confusion and loss of time at critical moments.

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*Read before the South Carolina Medical Association, at Harris Springs, in April.

The vagina having been thoroughly irrigated she was given 1 ʒ of normal liquid ergot hypodermically, and placed under chloroform. I dilated the cervix with my left hand and pushed it through the right side of the placenta, this seeming to be thinest part. I carried it on up to the fundus, where I found the butt of the child, which I pulled out through the vagina, bringing the head of the child against the placenta. As this did not produce pressure enough to control the hemorrhage I determined to deliver the child and remove the placenta. This I quickly did by flexing its chin and carrying the body of the child over on the abdomen of the mother. My left hand was immediatdly introduced into the womb and the placenta removed. The uterus contracted quickly and firmly, but more blood was still being lost than was desired, and I gave a hot vaginal injection, which checked it almost entirely.

The delivery, including the time spent in giving the hot water vaginal injection, was accomplished in eight minutes.

The child cried as soon as it was born and gave no trouble. It has been reared by artificial heat and feeding.

Mrs. ——, age 30, first confinement. After a labor of sixteen hours with good pains, the head of the child had not descended far into the pelvis. When the pains grew weaker and more infrequent, I decided to apply the forceps and end the labor. After she had been chloroformed I applied the forceps and began traction, when they slipped off. I found by re-examination that there was an unusually large Caput Succedanium, and that the blades of the forceps brobably did not get much of a hold on the head of the child. I applied a pair of Elliot's long forceps, the blades of which were longer than those that had just been used, but when traction was begun they, too, slipped and I made a tear in the perineum. As this was likely to occur each time the forceps were used, I determined to attempt to deliver her by using external force, as has been recommended in recent years, by making pressure upon the fundus and pushing the child downward during a pain. It occurred to me that this force could be used to better advantage by maintaining the position I was in while using the forceps, and pressing my hands up over the abdomen from below and grasping the fundus and pull the child downwards and deliver it in that way. I found that I could bring the child's head down in the pelvis without very hard pulling, and after a few efforts could bring it against the perineum, and finally delivered it.

The absorption of all of the ammotic fluid is of very rare occurrence. I have not been able to find any reference to it in any of the authorities that I have consulted. I explained the possible ways the loss could have occurred, but the mother of the patient says none was ever lost. The persistent vomiting of all fluids made the absorption of the ammotic fluid necessary to supply the system with the fluid which it urgently needed. The method of treatment adopted in the case of placenta previa is one of the several methods that are now recognized by the profession as the best. I think the hand excels all other means for dilatation of the cervix. It has to be introduced into the uterus sooner or later, and much time and uncertainty are saved by its use. The use of hot water to control hemorrhages from the torn cervix is very valuable, and as most of the uterus from which the hemorrhage is taking place can be reached by the injection of hot water into the vagina, I think the use of it will always prove of great value in checking hemorrhage from this source.

The parturient act is a mechanical one. The expulsion of the fœtus through the pelvic canal is accomplished entirely by mechanical force, produced by muscular contraction. Natural labor, unassisted by art, is accomplished by a vis a tergo act.

The delivery by forceps is purely mechanical, and is a vis a fronte act. It is remarkable that no other method of applying mechanical force than the forceps has been used until quite recently, when pressure upon the abdomen by the hands during a pain only has been advised. I think this method, either to assist the delivery, or to end it, will come into more frequent use when its value has become more generally known.

That the os should be dilated and the bladder and rectum empty before the method is done, is so obvious that I will only mention it.

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St. J. B. GRAHAM, M. D. W. B. FITCH, M. D.

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PHYSICIANS' WANTS, ETC.—A department will be devoted to the free publication of subscribers' wants, practices for sale, change of location, etc.

SECRETARIES OF MEDICAL SOCIETIES will do us a favor by keeping us informed of dates of meetings of same, etc.

THE AMERICAN MEDICAL PRESS.

The average busy practitioner—and even he who is not so blessed—rarely gives a thought to the Medical Press of this country, to what it is, to what it costs in effort and money, to the immense power for good which lies latent in it and for the progress or deterioration of which he alone is directly responsible. If he thinks of it at all, he soon dismisses it as a necessity—agreeable or otherwise as he happens to be fond of his profession or is merely a money-grabber—for which he pays or expects to pay in the very distant future. A short dissertation on this subject, therefore, will be a very profitable employment of time to most of our esteemed readers and will be the medium of information upon a topic than which none can be of greater interest, because this touches most closely the physician himself in his reputation and in his capacity and the opportunity for earning his daily bread. For the medical press is what its subscribers make it. It is a lever of mighty power—"a lever to move the world"—and its significance to the profession is whether the handle of this lever is controlled by the profession or whether the profession rests upon the short end and the long end is held in the hands of those who know its value and have so long exploited it. The value of the press to us—and who will deny its potential might?—lies in its control, its universal and absolute control, by ourselves, by medical men who are bound by professional obligations, by that common interest which binds us all, that remnant of medical ethical feeling which. notwithstanding the stupendous and blind selfishness of the individual practitioner, is still powerful enough to define our conduct, each to all and all to each, within certain fixed limits. Encourage with your support such a press, make it an accomplished fact by subscribing and *promptly paying your subscriptions*, and you need not doubt that the editors and medical proprietors will unite and act together for the common good. Medical editors know very well that a powerful press must be a united press and must equally represent a powerful and united body of men, *i. e.*, the profession; for if we editors had universal influence and our written words the convincing force of a Cicero and a Demosthenes, of what avail if the profession which we represented and for which we spoke remained disrupted, weak and incapable of self-government and the use of power? The profession and its press are indissolubly united for good or evil. Reform your press and it will in turn reform and unite you. Support and encourage medical proprietorship in your journalism—not by platonic good wishes, but by your *exclusive* patronage and by your money, and you will find the lever of a mighty press for use at your hand. Encourage, by your selfish indifference to everything which may benefit others as well as your individual self, journalistic proprietorship by lay publishing houses and your medical press will continue, as it has hitherto done, to *use you.*

When this journal first entered the field, something more than six years ago, it was almost the only first-class journal owned and edited by a professional man in this country; to-day there are probably a dozen or more in this category. We doubt not that at least a majority of these medical proprietors and editors are actuated by singleness of purpose to work for the good of the profession, to create a great press and that they are sustained by the hope that the profession will one day recognize practically the honesty of their purpose and its self-sacrifice. Do you fancy that all these journals are supported by the profession? Does that fatuous thought, perchance, cross the mind of the subscriber who throws his bill aside to be paid in a year or two? Does that contributor also believe this who sends his article to be published by some lay medical journal rather than by one owned by a medical man, not because the former is better or has a larger circulation (thank God, that excuse will not hold to-day), but because he thinks he can get a longer subscription credit and better terms for new medical books?

Remember this: If you wish this movement toward bringing the medical press under medical control to succeed, *you must not expect credit; you must pay for your subscriptions in advance.* You must make up your mind to that sacrifice for the sake of the great good to be obtained. Medical proprietors have not large capital behind them; *you* must supply the capital to work with. After all, you are only expected to pay for what you receive and we say, without a moment's hesitation, in the case of every journal for which you may have subscribed, you get your money's worth and more. If, on the other hand, you have no sympathy with the struggles of these medical men to give you a medical press which you yourselves shall own and whose policy shall always be dictated by your interests, if you prefer your press to remain always merely a grab-bag from which you will have the privilege, as you wish, to draw out a more or less interesting original article or society proceeding, you can accomplish this end without exertion. It is only necessary to neglect to pay your subscription. You will force, in this gentle and easy manner, every medical proprietor out of the journalistic field, and you will hand over the medical press absolutely to the great lay publishing houses who do not expect you to support their journals, which are not published in your interests but as advertising mediums for their other publications.

It is this uneven fight which we editors are fighting and the question at stake is whether the profession, to which we belong and in whose interests we work, mean to aid us or to turn aside. After all, it is for you, the profession, not for us; for we venture to say, there is not one medical proprietor in this country who could not earn more at his profession, with half the labor expended in journalism, than he could ever expect from the most generous support his subscribers could give him. The decision and the responsibility lie with you. It is easy (for the individual sacrifice is not great) to create a great American Medical Press under medical control. It is easier still to place it back again, where for so many years it remained—on a plane of mediocrity and in the hands of lay publishing houses.

[The above editorial, in *American Journal of Obstetrics and Gynæcology*, is so thoroughly in accord with the policy of this journal, with Dr. Emmet's permission, we reproduce it in full. We hope every reader of this journal will read and study well the above editorial and profit thereby.]—Eds.

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BLOOD MONEY.

PROFESSOR BEHRING AN ENEMY TO HUMAN WELFARE.

No more melancholy spectacle has been presented in these days of degeneracy in the medical profession than the recent act of Prof. Behring, whose name should have been enrolled very high on the list of benefactors of his race. Voluntarily foregoing every claim to the gratitude of mankind by demanding a patent on the manufacture of antitoxin in the United States, which, after numerous rejections, has at last been allowed by the United States authorities.

He permits himself, through the agency of a commercial house, to be placed in the attitude of an enemy to the profession and to human welfare, by threatening with prosecution for damages whoever shall manufacture, sell, or use diptheria antitoxin not made or licensed by him. This patent, as preposterous as it is inhuman, may further be legal, but it is not just. There is some grave defect in our patent laws to permit Prof. Behring to receive letters patent on his antitoxin, and we hope the American manufacturers will test the legality of this injustice.

Professor Behring, after all, may have unintentionally rendered us valuable service in calling attention to the defects of our patent laws, and through the indignation aroused by this flagrant disregard of professional honor, we hope effective attention may be drawn to the whole subject.

TYPHOID FEVER AND ARMY CAMPS.

The unusual prevalence of typhoid fever among the troops at the various army camps is, I believe, in great part due to the unusual and extraordinary swarms of flies with which every camp is afflicted. There are several factors that should be considered in this connection.

First—The troops of these commands are composed principally of volunteers, cared for by volunteer medical officers who are not as well versed in the care of large bodies of men and in camp sanitation as they should be. It was a matter of frequent observation to the writer, that although the dry earth system was supposed to be in vogue at the principal one of these camps, yet this system was very improperly cared for, the earth itself being composed of clean sand, and possessing little nitrifying properties.

The diarrhœal discharges of those afflicted with intestinal affections were left, in many instances, exposed in the privy sink, to be fed upon by swarms of flies in the interim between meal hours, only to swarm over the food of the soldier, conveying upon their legs and bodies intestinal bacteria, and in many instances the bacillus typhosus.

So firmly convinced was I of the correctness of this view, that I left a mess with which I was connected—after having frequently been compelled, at the table, to hasten away to vomit—on account of the disgusting spectacle of thousands of flies covering every article of food, knowing them to have lately fed upon the intestinal discharges of typhoid convalescents.

In support of my assertion that volunteer and contract surgeons are not well informed on military hygiene, and that such inefficiency is the cause of the large sick report of volunteer troops, I will report the following, of course witholding names, and with the request that this be considered entirely impersonal. A surgeon of a prominent volunteer regiment, a member of the faculty of a prominent medical school, in charge of a field hospital, placed a new hospital tent over the site of a recently covered privy sink. When informed of the evil, replied that it was covered up and that he intended sprinkling some lime over it. I explained to him that the source of infection was six feet under the surface; that the earth was extremely porous, and that the ground air would rise in the tent laden with noxious emanations. He asked me what I meant by ground air!

The unfortunate occurrences aboard the transports Seneca and Concho was distinctly due to the absence of medical officers of the regular army, and to the incompetence of those medical men in charge. It is only necessary to compare their condition with the carefully outfitted Olivette, Cherokee, etc., accompanied by officers of our corps to read between lines the true cause of the deplorable conditions. The officer in charge of one of these transports is known to the writer to be incompetent.

From the reports of the Concho affair, it would seem that Dr. A. Monae Lerser had been given the care of this ship at a time when none could be spared from the front. He accepted the commission as a medical officer. The first instinct of a regular would have been to have inquired into the sanitary condition of the vessel, and especially the water supply and the medical and commissary outfit. A regular, in the same position, who would fail to do this with the ontoward results consequent, would have most certainly been courtmartialed. Is it not strange that it has never occurred to any one to hold Dr. Lerser responsible? Does he not seem to be turning state's evidence in condemning the whole affair for which he himself is responsible and reflecting upon the medical corps.

It is sincerely hoped that when the present hysterical sentimentalism of ladies' auxiliary relief societies, etc., shall have ceased to afflict us, that justice will be done the medical department.—R. S. W.

SANARELLI'S SERUM.—YELLOW FEVER.

The May number of the *Annals del Institut Pasteur* contains the publication of the result of Sanarelli's arduous labors upon the serum therapy of yellow fever.

The preparation of his antiamarylic serum differs from that of other specific sera only in the difficulty of thorough animal immunization—in horses a constant intensive treatment for twelve to fourteen months being necessary. He has not yet discovered the presence of any antitoxic substances in vaccinated animals, and his experiments upon dogs, which after a year of intensive vaccination and which furnish a curative and preventive serum vomit, fall exhausted and show marked elevation of temperature after each new injection, would indicate that the serum possesses no antitoxic properties, but acts rather against the microbes themselves and not their toxins. He concludes that his serum is bactericidal but not antitoxic, its employment in the treatment of yellow fever being efficacious only in cases of early intervention before the occurrence of grave organic changes in various viscera from the production of excessive toxines. His most effective serum was obtained from horses which had been subjected to treatment for more than a year. Eight patients at the St. Sebastian Hospital, Rio Janeiro, were experimented upon with the following result:

Four showing anuria and delirium, injected on the fourth day, succumbed to the disease in spite of treatment. One on the fourth day, in serious condition though presenting neither anuria or delirium, recovered. Three cases experimented upon before the third day, all having the principal symptoms of yellow fever, recovered after energetic serum treatment; a falling temperature and an alleviation of symptoms being observed after each injection. He experimented in all upon twenty-two well marked cases, with the result of six deaths and sixteen recoveries.

He further tested its efficacy as a prophylactic by injecting the convicts in the jail at San Carlo do Pinhal, with the result that not a single case appeared among those vaccinated, although infection had gained entrance into the jail and an epidemic was raging in the town.

These results, while not absolutely conclusive, are very encouraging, and from what we know of the conservatism and brilliant attainments of Sanarelli, lead us to hope that he will succeed in his difficult task.

R. S. W.

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A REMINDER.

It is embarrassing to the management of The Georgia Journal of Medicine and Surgery to so frequently urge settlement for the payment of subscriptions, and to many of the busy practitioners among our patrons whose subscriptions are in arrears, we would again offer this reminder: We rely mainly on the support of our subscribers to balance the heavy expenses of maintaining a high-class journal of this character; therefore, we appeal to those of our patrons whose subscriptions are in arrears, and who have overlooked numerous statements and our personal letters. We feel sure it is only an oversight on their part, and that it will only be necessary to call their attention that we need the *past due* subscriptions.

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The United States Marine Hospital Service has just issued a valuable monograph on yellow fever. It is prepared under the supervision of the Surgeon General, with the approval of the Secretary of the Treasury. It contains all that is known, in condensed form, regarding yellow fever, and deals with diagnosis, hygiene treatment, quarantine regulations and the bacteriology of the disease. In our next issue we will give a review of the work. All physicians should obtain it. Address the Surgeon General, U. S. M. H. S., Washington .

EDITOR'S TABLE.

The seventeenth annual announcement of the New York Post-Graduate Medical School and Hospital, University of the State of New York, for 1898-99 has just been issued. It shows that 523 practitioners of medicine have attended its courses during the past year. They came from the various States of the Union and the Dominion of Canada. There were ten physicians from foreign countries, two of these being from India and one from Japan. Only ninety-six were from the state of New York.

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PRACTISING ABORTION FOR A LIVING.

The case of Dr. Collins, who has recently been sentenced in England to a term of seven years' penal servitude for performing an illegal operation upon a woman which resulted in her death, has once again attracted attention in that country to this too frequent form of crime. The *Times*, commenting on the prevalence of abortion among the women of the upper classes in England, says that these cases throw a lurid light upon some of the consequences of modern luxury, and upon some of the standards of morality which are accepted in certain circles of modern life. These words, we fear, will apply with equal force to the upper classes of America. With regard to Great Britain, and especially London, it has been for long a matter of common knowledge that there are medical men who are willing, for the sake of gain commensurate with the risks they run, to commit the crime of fœtal murder. The men who thus prostitute their abilities are either those who, like Collins, have lost their reputation and are unable to practice their profession in a legitimate manner, or those who are driven to these evil ways by the stress of poverty. But although their conduct is of course indefensible, it must be said that much of the blame rests with the women themselves, who, determined not to undertake the duties of maternity, tempt weak-minded medical men by large offers of money to commit this detestable crime. The judge, when summing up in the Collins trial, took occasion to say that "the woman who submits herself to an unlawful operation is guilty of felony just as much as the agent she employs," and it might go far to prevent the murder of the unborn were this aspect of the case more dwelt upon. The fear of disgrace and punishment in this world often acts as a more efficient deterrent from crime than does any dread of consequences in the hereafter. There are professional abortionists in all classes of society, from the old "granny" with her "teas" to the physician who makes a practice of "bringing the periods around," and the woman who consents to such practice is as much guilty of murder as the physician who produces the abortion. It is of frequent occurrence for the young maiden to come to us with a history of a deferred catemenial period, caused by "catching cold" while sitting on picnic grass (?). These maidens often secure the physician's prescription for an emmenagogue, and others, who are not so fortunate, seek the professional abortionist, and have the ovum destroyed often at the risk of their own lives.

BOOK REVIEWS.

Text Book of Medical Jurisprudence and Toxicology. By John J. Reese, M.D., late professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, late President of the Medical Jurisprudence Society, of Philadelphia. Fifth Edition, 1898. Revised by Henry Leffmann, A.M., M.D., Ph.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania; Pathological Chemist to Jefferson College Hospital, Philadelphia. 640 pages, cloth binding, $3.00. P. Blakiston, Son & Co., 1012 Walnut street, Philadelphia, Penn.

The volume before us is the Fifth Edition, which is evidence of its popularity. As a text book on this subject, it is safe to say that this is one of the most popular and handy volumes on the subject of Medical Jurisprudence ever issued, and it no doubt will command a large sale.

It contains, in a condensed form, almost all the information that one would need in any medico-legal relation. It is not a laboratory manual, nor is it intended as a comprehensive work for medico-legal experts, but as a student's text book and a reference work for general practitioners in medicine and law. The only criticism we make is that since the Roentgen X Ray has been admitted as evidence in medico-legal and malpractice suits, we were disappointed not to find anything in this volume bearing upon this subject. We were also disappointed not to see something on the question of serum therapy, which has unfortunately been omitted.

The chapters on: The phenomena and signs of death, medico-legal investigations, post mortems, causes producing violent death, examinations of blood stains, death from different forms of asphyxia, from starvation, from heat and cold and by electricity, feigned diseases, pregnancy, criminal abortion, infanticide, rape, insanity and malpractice, are full, complete and instructive. The author has had a wide experience as an expert and teacher, and writes in clear and correct language, but we must admit that we can see no reason why an expert chemist should write on insanity, or a toxicologist give an opinion on pregnancy or rape. After all, however, the volume has many points in its favor. The section on toxicology has received a very thorough revision; its size, compactness and admirable style are much in its favor as a book of ready reference.

Atlas and Epitome of Operative Surgery. By Dr. Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized translation from the German. Edited by J. Chalmers Da Costa, M. D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital; with 24 colored plates and 217 illustrations in the text. Philadelphia, W. B. Saunders, 924 Walnut street, 1898. Price $3.00, net.

We consider this the most valuable, concise work on operative surgery that we have seen. The book is intended as an elementary work for students, but it is eminently fitted to be a guide also to the surgeon. The operations upon the cadaver are described in detail and illustrated beautifully with many colored plates. Those operations, whose performance requires the skill of the practiced surgeon, are also illustrated and concisely described. The editor has given us the work free from the idioms of the German language, and conveys the intent and spirit of the author rather than the exact words. He has also added many valuable notes. The plates on intestinal sutures and entero-anastomosis, with Murphy Button, are especially valuable to the surgeon who has to do emergency work.

Atlas of Syphilis and the Venerial Diseases, including a brief treatise on the Pathology and Treatment, by Prof. Dr. Franz Mracek, of Vienna. Authorized Translation from the German. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to St. Luke's Hospital, New York; late Professor of Genito Urinary Surgery and Venerial Diseases, New York Post-Graduate Medical School and Hospital. With 71 colored plates. Philadelphia, W. B. Saunders, 925 Walnut street, 1898. Price $3.50, net.

Vienna is the acknowledged headquarters for the study of venerial diseases in the German school, and thoroughness is granted them in this as well as in other scientific branches. The author has used good judgment in the selection of his cases for illustration and text, taking those types most liable to be met with and giving them prominence, but also dealing concisely with rarer forms. The illustrator has done ample justice in the life-like portrayal of the lesions in colors. The book will prove a most valuable aid to the student and practitioner in diagnosis. Some allowance, however, must be made in the matter of treatment for local usage and customs. The explicit, direct and clear text and the life-like plates makes the book a veritable jewel.

PROGRESS
—OF—
MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF
W. Z. HOLLIDAY, M. D.,
INSTRUCTOR IN MATERIA MEDICA, MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.
RALSTON LATTIMORE, M. D.,
SAVANNAH, GA.

PNEUMONIA, ACUTE—TREATMENT.—The ice-treatment is used in acute pneumonia for the purpose of modifying and abating the symptoms and morbid changes which accompany pulmonary inflammation. The ice is best applied in wide-mouthed rubber bags, the size of the area covered depending upon the extension of the inflammation. Except in very young infants, it is always good policy to apply two ice-bags, while four or five may be useful if the whole lung be involved.

The number of times that the ice should be renewed depends very much on the degree of fever. Ordinarily one filling lasts from two to three hours. It should be continued until the temperature comes to or near the normal point to remain there. So far as bringing about a collapse is concerned, there need be but little apprehension, but in order to withdraw the ice without a subsequent reaction in the temperature, it is best to do this by degrees, that is by taking one or two of the bags away at a time, and watch the result. Ice may be applied in all cases when a pneumonia exists with high temperature, but should not be applied to old persons with subnormal temperature.

The application of one or two ice-bags to the head is of great value in case there is high fever, delirium and restlessness.

Besides the local use of cold to the chest and head, strychnine is to be given by the mouth in doses ranging from one 1-24 to 1-16 of a grain four times a day; morphine hypodermically in quarter of a grain doses at night to produce sleep; quinine as a tonic; the salicylates in combination with salines in order to counteract any rheumatic complication that may be present; capsicum in large doses to relieve delirium, dry tongue and great depression; and freshly expressed beef juice, milk, etc., as a nourishment. Oxygen by inhalation is te be given for the purpose of relieving dyspnoia and cyanosis, and if this fails to relieve these symptoms, a vein should be opened and the patient bled—*J. T. Mays* (*Phil. Med. Jour., June,* '98).

Persistent Use of Thyroid Extract in Recurrent Carcinoma of the Breast.—Frederic Page, M. D., and Wm. H. Bishop, M. D., in *N. Y. Lancet*, July, '98. In December, 1895, Mr. Page was asked by a former house surgeon of his, Dr. Bishop, to see with him a woman, aged sixty-one years, who was suffering from carcinoma of the left breast of some six months' duration. The general health was very much impaired. The growth was situated in the upper part of the breast and was the size of a hen's egg and both the axillary glands and their lymphatics were affected. On Jan. 7, 1896, the breast was removed, together with the axillary glands and fat, the lymphatics, and the pectoral fascia. In April there was a recurrence of the disease in the neighborhood of the cicatrix, and on July 18 several nodules, varying in size from that of a pea to that of a walnut, were removed. Three weeks after this second operation other nodules appeared in the scar and later a group developed below it and in the subcutaneous fat. Further interference was declined and, indeed, did not seem to be feasible. The nodules steadily increased in size and number. In September, 1896, at the suggestion of Dr. Bishop, thyroid extract was given quite as a forlorn hope. At first 3 gr. was taken daily and the dose was gradually increased till 15 gr. could be taken daily. During the eighteen months that the treatment was persistently followed it was found necessary occasionally to suspend the use of the drug for some days on account of its toxic effect. The patient is now quite well. She has gained flesh and health to such an extent that it is difficult to believe that she is the same person who was operated upon two years and four months ago. There is no trace of the disease to be discovered.

When, despite the completeness of the first operation, the growth returned three months later, and when only three weeks after the second operation it again made its appearance, the case looked hopeless. It was then that in sheer desperation I determined to try thyroid extract. At first it did not seem to have any effect, but it was soon apparent that no increase in size was taking place and the patient maintained—rightly, I think—that the growths were softer. In the spring of last year, however, about six months after the treatment was commenced, a lump appeared above the operation scar and grew rapidly until it was as large as a walnut, when it seemed to cease growing. I did not examine the breast from Christmas of last year (when in addition to the growth just mentioned there were a number of nodules in and about the scar and a group below it in the subcutaneous fat) until April 18 last, when I was amazed to find that every trace of the growths was gone. I at once informed Mr. Page and he immediately went to see the patient and confirmed my observation.

It is always dangerous to draw conclusions from a single case, but if thyroid extract had no effects upon the growths to what is their disappearance due? And if beneficial results from its use are dependent upon a previous oöphorectomy why should it alone not succeed after the menopause has been passed? If it is really, and of itself, of utility in carcinoma of the breast, then it ought also to be of service in carcinoma of other parts of the body, and I suggest its trial in inoperable cases when the growth is situated elsewhere than in the mamma. In this connection also it would be interesting to know whether the subjects of thyroidectomy or those in whom that gland is functionally inactive are peculiarly liable to carcinomatous growths. I am not aware that such is the case. It would also be interesting to get information as to the condition of the thyroid gland in the subjects of this disease. How the thyroid extract acts it is very difficult to surmise. Whether it alone, or in conjunction with the menopause (either naturally or artificially produced), tends to promote a fatty degeneration of the carcinoma cells, or by stimulating the lymphatics to remove the carcinomatous material (to which theory there would seem to be obvious objections), or by increasing metabolism enables the phagocytes to cope with the disease, or acts in some other way, further data can alone supply facts for a decision.

Not the least puzzling feature of the above case is the development of a growth during the treatment. At the time, however, the patient was suffering great anxiety owing to the illness of her husband and was constantly up at night.

THE TREATMENT OF GONORRHEA.—Dr. James J. Walsh, writing from Berlin *Therapeutic Gazette*, after discussing the German opinions on protargol and other silver remedies in gonorrhea, says: "The most promising thing in the treatment of gonorrhea just now would seem to be Quincke's suggestion as to temperature. The gonococcus is extremely sensitive in cultures to even slight variations of temperature. Dogs with a constant temperature of 39° C. (102.2° F.) cannot be inoculated with gonorrhea, and Finger found that malarial and other patients with a temperature of 40° C. (104° F.) would not take it. Quincke puts a Leiter coil around the penis and keeps the temperature at 40° C. for twenty-four hours, and has gotten some very satisfactory results."—*N. Y. Med. Jour.*

MALARIA.—In a clinical lecture, published in the *Tri-State Medical Journal and Practitioner*, Dr. Francis Delafield, of New York, says: "An arrangement which works here in New York is a combination with the quinine of acetanilid and arsenious acid:

℞ Quininæ sulphatis....................................gr. iij.
Aicidi arseniosi ....gr. $\frac{1}{80}$
Acetanilid...gr. ij.
M. et ft. in capsulum No. j.
Sig.: Take four in the twenty-four hours.

"Now, why this combination is better than quinine alone, or when arsenic is added, or why adding two grains of acetanilid makes it more efficacious than one-thirtieth of a grain of arsenious acid and three grains of quinine, is a question I cannot answer. I have found that it is so by personal experience; I found that the adding of the acetanilid gave me such results that I could not get along without it. I do not give large doses of quinine alone. I have been treating malarial fever in New York for twenty years, and I find that just such a combination of drugs answers very well in my hands; it is even better than Warburg's tincture."

THE TREATMENT OF "BLACK EYE."—Dr. May discusses this in the *Med. Rec.* (Vol. LI, No. 15). When the patient is seen early, before discoloration has set in, cold compresses or evaporating lotions are indicated; this will reduce the swelling and limit the subsequent discoloration. But if the patient is seen after he has a fully developed "black eye," hot compresses and massage are required. The affected portion is smeared over with vaseline and is rubbed for ten minutes several times a day. By frequent massage and continuous hot applications the discoloration may be almost entirely removed within twenty-four hours.

The professional "black eye" artists use for several hours a poultice of the scrapings of a root, the nature of which they keep secret, but which the author thinks is bryonyroot, and he has used the latter with good effects.—*Medical Bulletin.*

THE ACTION OF QUININE SULPHATE IN STRENGTHENING LABOR PAINS.—While quinine sulphate has little or no power for inducing labor pains, Schwab (*La Med. Mod.*, 1897, No. 3), is positive that after uterine contractions have once begun the administration of quinine causes them to become rapid and energetic. He obtained excellent results from its use in all cases of prolonged labor due to uterine inertia. While quinine strengthens the labor pains, it does not tend to induce abortion. Unlike ergot, it causes intermittent and not tetanic contractions, and may therefore be prescribed without danger during the second stage of labor. Its action begins in about one-half hour; the drug is therefore best given in two doses of eight grains each, within a period of ten minutes. Quinine is indicated if, after rupture of the membranes, labor is unnecessarily prolonged on account of uterine inertia, the mother is exhausted, and there is danger of the child becoming asphyxiated. While quinine has a tendency to produce post-partum hemorrhage, this is easily controlled by massage of the uterus.

MEDICINES WHICH ARE FORBIDDEN DURING THE PERIOD OF LACTATION.—Dr. Boissard (*Journal de Medicine de Paris*, ix., April 6, 1897), sums up the above subject as follows: "The medicines which are not to be given internally include those which influence unfavorably the quantity and quality of the milk, and further those which permit the return of the menses. For that reason all drastics which give rise to a congestion of the genital apparatus are to be forbidden. In persons who have their courses again and who suffer from profuse bleeding, rest in bed and hydrastis are to be used, and not ergotin, ergot, or digitalis. Avoid diuretics and diaphoretics; thus forbid digitalis, pilocarpine and asparagus. In cases of constipation use regulated diet, castor oil or cascara; exclude salines, podophyllin, rhubarb. The use of alcoholic drinks is absolutely to be forbidden. Sulphate of quinine enters the milk in such a small amount that it may be ordered if necessary. Preparations of opium and arsenic are to be avoided, however; camphor and antipyrin appear to influence the secretion of milk unfavorably, and therefore are not to be used."

THE ACTION OF ATROPINE AND PILOCARPIN ON PERISTALSIS.—Traversa (*Il Policin*, November 15, 1897), being struck by the fact that injections of atropine caused constipation rather than increased emission of fæces in horses, has investigated the action of this drug and also of pilocarpin. It was found that pilocarpin accelerated and strengthened peristalsis, while atropine lessened and finally abolished the movements of the intestine. In each case the result is obtained through paralysis or stimulation of the ganglia and nerve endings in the intestine. From this it follows that belladonna is not likely to be of value in constipation from atony of the bowel muscle, but in lead colic where it is not improbable that the intestinal ganglia are irritated belladonna may prove a useful remedy, and indeed in all cases when painful intestinal spasm, due to irritability of the intestinal ganglia, is present, the drug in question may be used with advantage.—*British Medical Journal.*

SULPHUR IN SEPTIC AND TUBERCULOUS ULCERS.—Miller, of Edinburgh *Practitioner*, February, 1897, praises very highly the application of sulphur in obstinate or recurrent ulcers and abcesses. Sulphur is non-poisonous, and when applied to fresh surfaces there are formed sulphuretted hydrogen, sulphurous and sulphuric acids, and it is these three products that act on the tissues. Being in statu nascendi, their bactericidal action is especially lasting and energetic. In fresh wounds and ulcers the sulphur is applied as a fine powder, in septic and tuberculous abscesses a 10 per cent. glycerin emulsion is injected. The burning following the application of sulphur can be prevented by the addition of cocaine. The author says that under the sulphur treatment ulcers and abcesses that have before resisted every kind of treatment for months frequently heal within a week. Another of the advantages of sulphur is its cheapness.

YELLOW FEVER AT SANTIAGO.—The past week has been replete with very disquieting news concerning the prevalence of yellow fever in and about Santiago de Cuba. The first reports of the extent of the infection among the American troops were greatly exaggerated, but the official reports seem to indicate that there were at least 300 cases. These included at least one officer, Gen. Duffield. It is reported also that one of the Red Cross physicians, Dr. Lesser, and his wife were sick with the disease. Fortunately, most of the cases are said to be mild, and there have thus far been but few deaths. It has been impossible to ascertain the exact number. All sanitary precautions possible under the circumstances are being observed, and it is confidently hoped that the epidemic may be held in check.

MEDICINE.

UNDER THE CHARGE OF
WM. CLIFTON LYLE, M. D.,
INSTRUCTOR IN CHEMISTRY IN THE MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.
R. L. PAYNE, A. M., M. D.,
NORFOLK, VA.

The Brand Treatment of Enteric Fever, as Modified by Prof. J. C. Wilson (*Philadeldhia Medical Journal*).—In an article entitled, "Observations Upon the Treatment of Enteric Fever by Systematic Cold Bathing, etc.," Dr. J. C. Wilson thus describes his modifications of the Brand method of treatment, which, in his hands, has been attended by remarkably good results.

The Modifications:—It is no part of my present purpose to speak of the general management of the patients, the diet, stimulation or the details of bathing. These are already very well understood.

The modifications of the method as originally formulated by Brand, which have been gradually adopted as the result of our experience, are the following:

1. *The Administration of Purgatives at the Beginning of the Attack.*—For this purpose calomel is used, sometimes in fractional doses, more frequently in doses of 0.3 to 0.5 g. (5 to 7½ grains). If necessary, this is followed in the course of several hours by a mild saline aperient. These purgatives are frequently repeated once or twice in cases that come in early, but are never administered to those who come in after the 10th day of the attack.

2. *External Applications.*—Cold compresses of ice-bags are applied to the abdomen in all cases of abdominal tenderness or marked spontaneous pain, and in cases of hemorrhage. When tympanites is marked, turpentine stupes are applied at intervals in connection with the external use of cold.

3. *Medicines.*—The treatment by systematic cold bathing is a routine method, and is instituted in all cases. The signs of peritoneal inflammation, hemorrhage, and perforation constitute in general terms the only contra-indications. Each patient, however, is closely watched, and the morbid conditions of individual cases receive proper consideration. Appropriate medication is administered in response to special indications, hence, the quantity of alcohol varies in different cases, and such drugs as the aromatic spirit of ammonia or ammonium carbonate, strychnin, caffein citrate, the bromides, chloral, opium and its derivatives, and hyoscin are occasionally used. Inhalations of oxygen are sometimes employed. The proportion of cases requiring any medication whatever throughout the attack is, however, very small, not exceeding 10%. On the occurrence of defervescence dilute hydrochloric acid is given for a short time, and later, if anemia persists, some form of iron, usually Basham's mixture.

4. *Temperature at Which the Bath is Administered.*—During the course of attack, whenever, three hours after the bath, the temperature taken in the mouth or the axilla, as the case may be, has reached 101.4° F., the bath has been repeated. Brand's original formula fixed the rectal temperature at which the bath should be repeated at 39° C., which is equivalent to 102.2° F. This arrangement was arbitrary and based upon an approximately average temperature of 39° C. in the course of the attack. In this country it is not generally customary to take rectal temperatures in the acute diseases of adults, and temperatures are usually taken in the axilla. The difference between the rectal temperature and the axillary temperature varies according to circumstances, but is nearly 1° F. It is for this reason that we have adopted the rule to repeat the bath when the axillary temperature reaches 101.4° F.

Until within the past year the baths were practically discontinued as soon as the temperature ceased to rise above this level. A remarkable fact caused us to modify this rule, namely, every now and then a patient whose temperature no longer rose to 101.4° F., would ask to have the bath repeated, saying that it made him feel so much more comfortable. In consequence of this we have adopted the rule of giving one or two plunges a day during the defervescence, and a plunge every day or every second day for a short time after the defervescence has been completed. The result has been entirely satisfactory, and has seemed to us to hasten the convalescence.

5. *The Location of the Tub with Reference to the Patient's Bed.*—According to the formula of Brand, which has been universally followed, a movable bathtub has been placed at the side of the bed, and the patient has been lifted from the bed into the bath, or has entered the bath with the assistance of the attendants. This was the invariable method at the German Hospital until about a year ago. I recall severe criticism upon the treatment, based upon the statement that the patient was allowed to sit upon the bed and to step into the bath, with the assistance of the nurses. A careful study of the previous cases led us at that time to modify this procedure. In the severer cases it was, of course, necessary to lift the patient into the bath; but, as improvement followed a series of baths, the patients were encouraged to help themselves, and under favorable circumstances it was soon found that they entered the bath with but little assistance. A different arrangement was then adopted. The bath was allowed to remain stationary at the end of the small fever-wards. The graver cases were placed in beds near the bath, and were carried by the attendants from the bed to the tub and back. The milder cases and the improving cases were placed in the more distant beds, and walked to the bath, with the assistance of the nurses. The fever-wards are small, each containing six beds; the most distant of which in the men's ward is a little over six meters from the bathtub; the most distant in the women's ward being about 5.75 meters from the bathtub. Adjacent to these wards are other wards in which

fever patients can be placed with separate tubs, but in all instances the improving cases and the milder cases are wrapped in sheets, rise from their beds every three hours, and are assisted to the tubs by the attendants, and return in the same manner after the bath. Each individual case is carefully studied, and if any contra-indication to this procedure is discovered the patient is carried by the attendants from his bed to the tub and back. In no instance have we seen any reason to believe that this modification has had unfavorable effects. On the contrary, it has appeared to be of signal service. It has exerted a very favorable influence upon the course and symptoms of the disease, particularly upon the condition of the respiratory and circulatory functions. Quite aside from favorable empiric results there are theoretic reasons for a change from traditional methods of treating cases of acute febrile disease of long duration. Among the more striking morbid phenomena in the clinical picture of enteric fever under drug treatment, always inadequate, are the evidences of passive visceral congestions to which progressive impairment of the heart's force and the circulatory powers in general strongly contribute. Among these are especially to be named bronchitis, broncho-pneumonia, and hypostatic congestion. There are others of which one can speak less positively, as they are largely due to the action of toxins. Our experience leads us to believe, however, that the development of somnolence, gastro-intestinal catarrh and the intestinal paresis to which tympanites is due, has been in the past favored by the log-like, continued, passive recumbency of the patient suffering from enteric fever. The muscular atrophy due to disuse and the diminished activity of the circulation of the lymph throughout the body cannot be disregarded in this connection. The vast majority of patients suffering from enteric fever are adolescents and young adults at the most active period of life. The disease develops with comparative rapidity, and is of long course. Have we not in enforced continuous repose been adding to the pathologic process a secondary disturbance of nutrition due to disuse of function? Our experience in the last year justifies me in answering this question in the affirmative.

6. The system of Brand is designated, "The Treatment by Systematic Cold Bathing." The measure of its success is determined by the period at which it is instituted in any given case; the sooner the better. Brand's claim, that the mortality is practically nothing in cases treated from the beginning, cannot in ordinary hospital practice be established. Our cases do not come to us in the beginning of the attack. Many observations have, however, been published that show in large series of cases that the earlier the treatment is instituted the greater is the reduction in mortality. Under the ordinary conditions of hospital practice few cases are received until toward the end of the first week, the great majority later than this, and a considerable number as late as the middle of the third week. It is obvious that the treatment by systematic cold baths

instituted late in the course of the attack must largely fail as a plan. There is nothing specific in the individual bath. It is the rhythmic repetition of the stimulation of physiologic processes and of the modifications of pathologic processes produced by a succession of baths commenced early in the course of the attack to which the favorable results are to be attributed.

On the other hand, there are many mild cases admitted at any time during the progress of the attack in which the temperature is so low, and the defervescence occurs so soon after admission that the number of baths administered is but limited. These cases belong to the group designated mild typhoid, in which recovery takes place under a management purely expectant. It would be obviously unfair to claim for the bath treatment the shortened course and termination of such cases. These two groups of cases, however, in a certain sense offset each other, and thus justify the conclusions based upon the statistics.

BEHRING'S PATENT.

The enterprising and honorable house of Parke, Davis & Co., have rightly determined to test the legality of this unjust patent, and will, at their own expense, protect all physicians prescribing, or pharmacists handling their Antitoxine. It is the most concentrated antitoxine manufactured, absolutely aseptic, being put up in hermetically sealed tubes, and, therefore, superior to the German product.

No American, who has regard for ethics and justice will prescribe Behring's Serum. Parke, Davis & Co.'s Serum can always be had absolutely fresh, which cannot be said of Behring's Serum.

GENERAL SURGERY.

UNDER THE CHARGE OF
HUGH M. TAYLOR, M. D.
PROFESSOR OF SURGERY IN THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.
WILLIS F. WESTMORELAND, M. D.,
PROFESSOR OF SURGERY IN THE ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS, ATLANTA, GA.

"Modern Treatment of Gunshot Wounds in Military Practice" is the title of a paper by Dr. Nicholas Senn in the July issue of the *Journal of the American Medical Association.*

As usual, Dr. Senn in writing this article has done the right thing and at a most opportune time. It is no reflection upon the regular and volunteer army and navy medical corps to urge at their hands a close study of Dr. Senn's advanced resumé on gunshot wounds. Few surgeons can advise as intelligently as to the treatment of gunshot wounds, and only few would be accorded as respectful a hearing.

War must ever be regarded as horrible and in fact a reflection upon civilization, but from the evils of even war, we may expect good. In a better understanding as to the treatment of gunshot wounds, and the increase and diffusion of knowledge as to camp hygiene and the diseases incident to camp life. The following order to Dr. Senn evinces that our government is keenly alive to the good which may ensue if the experienced gained is utilized, and in assigning the important duties as outlined to Dr. Senn, pays a compliment to professional worth which, while fully merited, is unique.

HEADQUARTERS OF THE ARMY,
WASHINGTON, D. C., June 29, 1898.

Lieutenant Colonel Nicholas Senn, U. S. V., Chief of the Operating Staff.

Sir:—In assigning you as Chief of the Operating Staff, the Major General Commanding the Army directs me to say that, at the several points to which you may be assigned to duty, you will confer with the Chief Surgeon of the Corps engaged as to the means by which you may consult with and advise the medical officers serving with that army regarding the clinical features of their professional work; that you will recommend such methods, either by lectures or operative demonstration, as may in your judgment be best suited to accomplishing the purpose in hand; that you will take the necessary steps for collecting data upon which the clinical and pathologic records of the field and hospital service may be classified, and from which the future medical and surgical history of this war may be prepared. Your present assignment will be for duty with the Fifty Army Corps, now operating before Santiago de

Cuba, and at such future time as the General Commanding may decide, you will be transferred to other points where active military operations are progressing.

Very respectfully,

Col. Chas. R. Greenleaf,

Asst. Surgeon General U. S. A., Chief Surgeon, Army in the Field.

Not only is the article of Dr. Senn's of deep interest to the medical men who are actively engaged at the front but it is equally worthy of close study at the hands of all who practice surgery and meet with emergency cases. Since the advent of aseptic and antiseptic surgery the profession has surmised as to its possible benefits on the field of battle and in military hospitals. Our experience so favorable in private practice has encouraged the hope and expectation that many lives and limbs would be saved, suffering lessened and convalescence shortened. If the result is not equal to our expectation we think it may be fairly claimed that our Government was not prepared for war and that facilities for securing the benefits of aseptic work in the fields and hospitals were unavoidably lacking. A change in the character of gunshot wounds of the present day is a natural result of modern guns and projectiles. This change is the outcome of long range guns, smaller bullets, encased bullets, greater velocity and power of penetration and the substitution of smokeless powder for black powder. Dr. Senn thinks the following facts will be shown :

"1st. Fewer bullets will be found lodged in the body. 2nd. Wounds will resemble more closely incised than contused wounds. 3rd. Range will have more influence in changing the character of wounds. 4th. Diminished risk of infection. 5th. Dangerous primary hemorhage will be more, secondary hemorrhage less frequent. 6th. More difficult extraction of bullet." In his paper Dr. Senn impresses the truism of Nussbaum that "The fate of the wounded rests in the hands of the one who applies the first dressing,' and to this he would add another, both of which applies equally in civil practice to "never probe a bullet wound on the battle field." We may well add never probe a bullet or any other wound until probe surgeon's hands and wound have been rendered aseptic.

First Aid Dressing.—Some first aid package should be upon the person of every soldier. A package devised by Dr. Senn contains a teaspoonful of a powder composed of four parts of boracic acid, one part of salicylic acid, about one drachm of absorbent cotton, a piece of sterilized gauze forty inches square, and a number of safety pins. This first aid dressing should be applied by the soldier or his comrade and left in place until the hospital is reached.

Arrest of Hemorrhage on the Field.—Dr. Senn urges that all who may be called upon to render assistance should be instructed as to the best means of arresting hemorrhage, notably by elevation of the injured part, hyperflexion, digital compression and antiseptic tamponade. As to circular compression, whether it be accomplished by Esmarch's elastic bandage, a pair of suspenders, or the Spanish windlass, the mission of such treatment should be fully explained, and also the importance of elevating the limb for a few minutes to empty the blood out of the limb. He also reminds to constrict quickly and with sufficient firmness to interrupt at once and completely both the arterial and venous circulation. He reminds us that there is more danger of gangrene from constriction in a wounded limb, and reports a number of experiments he made years ago to ascertain how long the circulation could be safely constricted. His experience leads him to think that it is dangerous to extend the time beyond from three to six hours.

Locating, Finding and Extracting Bullets.—We are reminded that bullets from modern guns do not as often remain in the tissues, perforation being the rule. One of the most important rules to follow in locating a bullet is to place the patient and wounded part in as nearly as possible the position occupied when the wound was received. The metal-clad bullet has, he thinks, lessened to some extent the usefulness of Nelaton's probe. The end of the probe should correspond approximately in size to the caliber of the tubular wound. Every field and general hospital should, he thinks, be supplied with an X-ray apparatus, to be used always in preference to the probe. He advises when a small calibre bullet is lodged in important anatomical locality, difficult of approach and not giving trouble, it had best be left alone, with the hope that it will become encysted. Such conservatism, he thinks, will yield better results than the routine practice of moving the bullet at all hazards. In connection with this advice an interesting question arises upon which we would like to have had Dr. Senn's views, *i. e.*, the degree of infection incident to the bullet *per se.* It is probable that as the modern bullet wound approaches more in type the incised wound, presents less contused and lacerated tissue along the tract, that the tissues are able better to handle infection carried by the bullet. From the modern bullet wound in the soft parts we will have less effusion and necrosed tissue and a less favorable environment for pathogenic germs. Is the modern bullet with metal encasement, great velocity and smokeless powder more aseptic ? It is held by some writers that the explosion asepticises the bullet and its infection, or that of the wound comes from germs carried in by the bullet from the clothes, skin, etc. Only a few days ago we removed a pistol bullet which had passed through the abdominal wall, perforated the stomach, left lobe of the liver and lodged in the skin over the left lumbar muscles. The groove near the base of this bullet was still full of white grease after remaining in the tissues six weeks. No infection of the wound tract occurred. If the heat of the exploded powder is not sufficient to melt the grease on the bullet, we should hardly think it sufficient to sterilize a bullet.

Gunshot Wounds of the Extremities.—We are reminded of the fact that "injuries of soft tissues not implicating important vessels and nerves, under modern treatment should heal in a short time under the first dressing, with little or no functional impairment. The existence of a gunshot fracture, regardless of the extent of bone injury, no longer furnishes a legitimate indication for primary amputation. A strong, determined protest must be made against unnecessary removal of detached and partially detached fragments of bone. If the wound remains aseptic loose fragments will not only retain their vitality but will take an important part in the restoration of the continuity of the bone and add materially to the functional result. Debridement more or less extensive becomes necessary and should be performed in case the wound becomes infected." Gunshot injuries of any of the large joints should be treated conservatively. Dr. Senn saw in the military hospitals of both Greece and Turkey gunshot wounds of the hip, knee, ankle, shoulder, elbow and wrist joints recover without operative interference and in many cases with a fair degree of motion and usefulness of limb. The indications for primary amputation should, he thinks, be limited to cases in which the nutrition is suspended or seriously threatened by vascular injury incompatible with life of the parts below the injury. The wounded are entitled to the benefit of the doubt, and there is more credit in saving one than in amputating many limbs. Surgery of the future should limit more and more, he thinks, the indications for amputation.

GUNSHOT WOUNDS OF THE SKULL.—Dr. Senn limits his remarks to penetrating wounds of the skull, which, he thinks, invariably calls for operative interference, provided it holds out any encouragement of saving life. If there is a perforation the entire scalp should be shaved and rendered aseptic. The wound in the soft parts must be enlarged to expose fully the perforation of the skull, and this latter must be enlarged with chisel or rongeur forceps in order to remove spicula of bone which are not infrequently found imbedded in the brain some distance from the wound. With a long-eyed probe a strip of iodoform gauze long enough to loosely pack the tubular visceral wound should be inserted from the wound of entrance to that of exit. This drain arrests capillary bleeding. A large hygroscopic dressing should be applied. If the bullet lodges in the brain try to locate it by means of Fleurer's aluminium probe. Counter-opening may become necessary to remove the bullet. In all visceral wounds of the skull, tubular or capillary drainage or a combination of the two is indicated.

[To be continued.]

RAILWAY SURGERY.

UNDER THE CHARGE OF

FRANK H. CALDWELL, M. D.,
CHIEF SURGEON PLANT SYSTEM OF RAILWAYS, WAYCROSS, GA.

R P. IZLAR, M. D.,
MAJOR AND SURGEON U. S. VOLUNTEERS; HOUSE SURGEON GENERAL HOSPITAL PLANT SYSTEM OF RAILWAYS, WAYCROSS, GA.

Thank you, Editor, there is nothing the matter with the water at Tampa. See the reports of the U. S. A. expert chemist and Bacteriologist "*Navy Bug*." If these army dudes would quit fussing and throwing mud at each other, and extend their energies in dosing out calomel, quinine and Woodbridge pills, our boys would fare better. There were only thirty-nine cases of typhoid fever among the employes of the Plant System (7,000), during the year ending June 30th, 1898, and not a case at Tampa.

CONTUSED WOUNDS.—By W. R. McMahan, M. D, Huntingburg, Ind., Chief Surgeon L. E. & St. L. C. C. R. R. Read before the Air Line Surgeon's meeting April 28, 1898, Princeton, Ind.—Contusions and contused wounds form a large and important class of railroad injuries. A contusion is a crushing or laceration without breaking the skin or fracturing the under lying bone or bones, and involves cellular, muscular, vascular and nervous tissue, in the order named. A contusion may be so slight as to be scarcely noticeable, or it may be so extensive and severe as to involve a large portion of the trunk or an entire extremity and result in the loss of a limb or life. It is characterized by swelling, fever, pain and discoloration. The swelling is at first due to the rupture of blood vessels, which may be large or small, and the diffusion of blood in the inter-muscular and cellular tissue spaces; later by the transudation of serum and cell proliferation, nature's method of repair.

The fever which usually follows a contusion is due to the absorptian of "fibrin, ferments and nucleus," and is generally of a mild form and short duration. The pain is either due to the injured nerve filaments or to the distension of the parts by the effused blood. The discoloration may be seen at once if the contusion is superficial, but if it is deep down in the tissues it may be several days before it makes its appearance. It is first blue, then green, then yellow, and lastly fades away. The object in treatment is to protect the parts from infection and assist nature by position, pressure and local application in the absorption of the effused blood and restoration of the injured parts.

We cannot lay down any fixed and fast rules for treatment that will apply to every case, but there are certain leading indications that are alike in all cases, and in order that I may be able to give you my views in regard to how to treat these leading indications, we will divide contusions into three classes: slight, severe and very severe.

To illustrate: A man has his hand mashed while making a coupling, skin and bones not injured, the hand is hot, swollen, painful and discolored, circulation in fingers good. The first thing to do is to cleanse the hand and forearm thoroughly and render them aseptic, cover with antiseptic gauze, absorbent cotton and roller bandage firmly applied; place the hand in a sling, give him a saline cathartic and an opiate if indicated, and tighten the bandage from time to time as it becomes loosened. This is usually all the treatment that is necessary in slight contusions, and recovery takes place in from six to ten days. If after the first dressing the swelling should increase and the hand become very hot and painful it will be necessary to apply cold to the hand over the antiseptic dressing, either by the application of an ice bag or ice water through a Leiter's coil.

A Leiter's coil can be improvised by taking twenty feet of rubber tubing and wrapping it around the wrist and hand a number of times, put one end of the tubing into an elevated basin of ice water, and the other end into a waste basin on the floor, then by suction the flow will start and continue indefinitely if the reservoir is supplied with water. We can use hot or cold water through the coil as seems indicated in any given case, and forms the best method of regulating the temperature in all cases of contusions and contused wounds of the extremities.

Suppose a man has his forearm caught between the drawbars in such a way that the force was expended on the soft tissues, rupturing either the ulnar or radial artery. On examination we find the forearm enormously distended with blood, the hand and fingers are cold, absence of ulnar or radial pulse, and that his general condition is bad from the combined effects of shock and loss of blood. The first thing to do is to cleanse the hand, forearm and arm, and get it in an absolutely aseptic condition, cover the injured surface with a thick layer of antiseptic gauze and over this a thick layer of aseptic absorbent cotton, and over all a flannel roller bandage very firmly applied.

Then introduce through this antiseptic dressing an aseptic aspirating needle, and remove as much of the extravasated blood as possible; as the blood is removed the flannel bandage will contract and by its pressure prevent further bleeding.

The external pressure from the bandage does not interfere with the collateral circulation one-half as much as the same amount of internal pressure would from effused blood. After removing the blood use hot or cold water through the Leiter coil as seems to be indicated, and over the antiseptic dressing. If the patient is still suffering from the shock give him a hypodermic of strychnia and digitalin and morphine if necessary to control the pain.

The after treatment must be varied to suit the indications as they arise.

If the extravasated blood is removed by aspiration it will hasten recovery, and there will not be so much danger of traumatic aneurism following the injury.

In very severe contusions of the arm or thigh, rupturing the brachial or femoral artery, we usually find the patient profoundly shocked and anæmic from the loss of blood. The blood is diffused into the inter-muscular and cellular tissue spaces, distending the limb to its utmost, and continues to flow until the pressure in the effusion is near that of the ruptured artery; this pressure diffused through the tissues impairs or cuts off the collateral circulation upon which the vitality of the limb depends, and we find the limb cold and pulseless. The first thing to do is to give the patient a hypodermic injection of morphine and strychnia and apply artificial heat to his extremities.

As soon as his general condition will warrant, place him under the influence of ether, shave the limb and render it absolutely aseptic, then with aseptic hands and instruments make a long incision over the hæmatoma and parallel with the limb, turn out the blood clots and ligate the bleeding vessel or vessels, irrigate the wound with a 1-3000 bichloride solution, provide for ample drainage and close the wound with sutures and dress antiseptically, envelop the limb in hot flannels or a Leiter's coil, and meet indications local and general as they arise and vary from day to day.

If the collateral circulation is sufficient to nourish the limb below the point of ligature the patient will probably recover with a useful limb; if not, the limb will become gangrenous, and will have to be amputated. In contusions we may have suppuration from either one of two causes: There may be disease germs floating in the blood current which find a lodgment in the injured tissue or effused blood, and set up destructive inflammation; or there may be vesicles or blisters formed over the contused parts, and through these infection may occur if antiseptic precautions have not been taken. Hence the importance of aseptic precautions in the treatment of all contusions.

Contused wounds, like contusion, may be very slight or very extensive and involving vital parts, that may result in the loss of life or limb. They differ from contusions in that the skin is lacerated or torn and blood escapes from the wound instead of being diffused amongst the tissues. The first thing to do in treating a contused wound is to thoroughly cleanse it, ligate all bleeding vessels, trim or cut off all devitalized tissue, provide for drainage, approximate the sides of the wound either with or without sutures, and dress antiseptically.

The after treatment must be varied to meet local and general indications as they may arise.—*Railway Surgeon.*

Case of L. H., colored, male, age 37, laborer. While working on pile driver patient was struck with hammer weighing eighteen hundred pounds. The arm of the man was resting upon the top of a pile, which had already been driven down several feet in the mud. By mistake the signal was given to drop the hammer for another drive. The engineer seeing the position of the patient, reversed his engine, and somewhat checked the force of the blow, which struck the patient on the forearm, crushing it from elbow to tips of fingers. Twelve days before coming to hospital, patient's arm was incased in fracture box in a bed of wheat bran, soothing lotions having been poured over arm. Patient was admitted to hospital April 28th, twelve days after the accident. Forearm and hand were greatly swollen and tense, several large bullæ appearing on surface, containing fluid and marked lymphangitis with induration on inner side of arm extending into axilla. Patient suffering little pain, no temperature or other constitutional symptoms. Upon the night of admission to hospital arm was removed from bran bed, thoroughly washed with antiseptic solution, blebs clipped, evacuated and dressed with powd. boracic acid, and covered with moist bichloride gauze. The whole arm was then enveloped in absorbent cotton, and placed in an elevated position, patient was placed on stimulants and nutritious diet, purgative given, followed by saline, and put upon Tr. Ferrichloride, and tonic containing strychnine and pepsin as routine treatment; patient allowed up. The following day patient's arm was submerged in hot water bath, to which hot water was added as the bath cooled, temperature of water being as high as patient could bear, which was continued for two hours, twice daily until May 15th. After the bath arm was dressed with antiseptic gauze and pressure bandage, cotton, feltboard, splint and sling. . Under this treatment the swelling was greatly reduced, the lymphangitis disappeared, also pain, and arm began to assume its normal appearance. On May 16th, an X-ray picture was taken of same, which revealed separation of the carpo-ulnar articulation and ununited fracture of the middle third, the ulna with not even the appearance of provisional callous, and end of bones separated.

The radius was fractured in the lower and middle thirds. Fragments were not in apposition and freely movable. After this examination, the arm was manipulated without the use of an anæsthetic, and placed in felt board box, forearm at right angle to arm in position of pronation. This was taken down and pressure bandage applied every fourth day. On May 24th patient was placed under anæsthetic, fragments were rubbed together and placed in apposition. Splint applied, forearm at right angle with arm, hand midway between supuration and pronation. Considerable swelling followed this treatment, attended with inflammation. This quickly subsided under the local application of lead water and laudanum. This dressing was removed in eight days, and arm placed in plaster dressing. This became loose in one week after application, and was replaced with a similar dressing. Upon removal of this fragments were found to be securely anchored, and patient could pronate and supirnate arm, and partially flex fingers. Passive motion was exercised, and static electricity applied; patient discharged July 9th, able to return to his duties as foreman of pile driver.

The report of the above case was handed us by Dr. C. B. Spratt, Assistant House Surgeon of the Plant System General Hospital, and we feel sure that the report will be read with interest, as showing the marvelous reparative power of nature when judiciously assisted. Injuries involving the life parts are greatly benefited by the use of hot water as indicated in the report.

OBSTETRICS AND GYNÆCOLOGY.

UNDER THE CHARGE OF
WILLIAM S. GARDNER, M. D.,
INSTRUCTOR IN GYNÆCOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE, M. D.
HUBERT A. ROYSTER, A. B., M. D.,
RALEIGH, N. C.

THE CONSERVATIVE TREATMENT OF FIBROID TUMORS BY MYOMECTOMY. —In (*Therapeutic Gazette*, July 15, 1898,) Chas. P. Noble first reviews the developmental stages in operative methods for the removal of fibroid tumors of the uterus. The earliest procedure was removal of the tumor itself, because it was simplest and safest; then for the same reason later the uterus together with the tumor or tumors was removed; still later induction of artificial menopause was employed. Hysterectomy has the advantage over the latter method and is the usual method of election at the present time. In a certain class of cases removal of the tumor itself (myomectomy) is a much safer operation and a truly conservative one, in that the fibroids are removed while the organs of generation and the functions of menstruation and procreation are retained. The author states that the first myomectomy was performed by Amussat in 1840, the operation being done *per vaginam.* He also pays a tribute to W. L. Atlee, the next surgeon to do a myomectomy, for his systematic and continuous advocacy of removal of the tumors upon scientific grounds. Atlee's first myomectomy was a celiotomy for a pedunculated fibroid. Since this time numerous surgeons have aided in the perfection of hysterectomy, embracing their opportunities recently to extend the field of conservative surgery. Thought now is directed toward broadening the indication for myomectomy. These indications chiefly depend on the nature of the growth, typical cases for the operation being those in which but a single tumor is present, and favorable cases those in which the number of tumors is small. The age of the patient and the desirability of child-bearing are relative indications. When the uterus is studded with fibroids the operation is contraindicated. Two methods of performing myomectomy—by the abdominal or the vaginal route. The former plan is best adapted to subserous and intramural fibroids, and even to submucous ones, if large. The essentials of success, as he regards them, are perfect asepsis and hemostasis, in addition to a good surgical technique. He then describes the usual procedure—incising the capsule, peeling the tumor from its bed and closing the wound by continuous catgut (preferably prepared by the cumal method) suture, while the peritoneal covering of the uterus is closed in the ordinary manner. Submucous fibroids, cervical fibroids and small subserous fibroids situated on the anterior wall of the uterus are best suited for the vaginal method, being varied in different cases according to the location and size of tumor. They may be reached by splitting the cervix bilaterally (in submucous variety), being careful not to wound the uterine artery and vein, dilating the uterus and seizing the tumor with vulsellum forceps. Hemorrhage by the vaginal route, in his experience, has been trifling, but, if troublesome, could be controlled by packing the uterus. The cervical variety can be enucleated readily after splitting the cervix, and the subserous can best be attacked by anterior colpotomy. This latter procedure, with splitting of the anterior wall of the cervix and uterus up to and, if necessary, beyond the vesical peritoneal reflection has been recommended as affording ready access to submucous fibroids, and, theoretically, it should do so; but the author has never employed it, being satisfied with the bilateral incisions of the cervix, in which, though there is greater risk of wounding the uterine vessels, yet there is not so much likelihood of invading the peritoneal cavity. His experience with myomectomy includes 25 cases—8 by abdominal route and 17 *per vaginam*—all recovering, and none, so far as known, developing fibroid nodules since operation. Three of the patients have become pregnant and given birth to children, one having twins. It cannot be expected that a *nil* mortality will be obtained in a large series of myomectomies, but the mortality should be lower than that of hysterectomy for fibroids. In conclusion, he emphasizes the general adoption of early operation and more general substitution of myomectomy for hysterectomy.

VAGINAL ROUTE FOR PUS IN THE PELVIS.—Joseph Taber Johnson (*Amer. Jour. Obstet.*, July, 1898,) makes a plea for vaginal section, irrigation and gauze drainage, for pus in the pelvis, as affording greater advantages over celiotomy followed by difficult and prolonged enucleation of pus sacs. After citing 11 cases, he sums up his conclusions as follows:

1. The vaginal section is very much more quickly done than the abdominal and the convalescence is much shorter.
2. There is little or no shock.
3. The peritoneal cavity being seldom open in these cases * * much less traumatism occurs to intestines, bladder, ureturs, omentum, or abdominal wall * * *
4. Drainage, being down-hill, is not opposed by the laws of gravity, and is more natural, safe and copious.
5. There is no ugly scar to annoy the eye and develop a painful keloid or permit a ventral hernia.
6. The mortality of the vaginal operation for pus is vastly less than in that of enucleation of tubo-ovarian abscesses from above in the badly adherent and complicated cases.
7. Experience has abundantly proved in more than a sufficient number of cases that the removal of the abscessed organs is not necessary to a symptomatic cure, and that a permanent and complete restoration to health is the rule, while a secondary operation later on is the exception.

8. Should a secondary operation from above become necessary, its performance would be much easier and safer, on account of the freedom from pus and the improved condition of the patient.

9. The perfection of the operation for draining double pus tubes through the vagina has opened the way for many other *beneficent* operations from below, including anterior and posterior colpotomy, explorations, hysterectomy, etc.

10. Many patients who fear and will not consent to celiotomy, with its possible accidents, including intestinal injuries, the post-operative sequelæ and the scar, the stitches, the bandages, the troublesome supporter for six to twelve months, and the possible hernia, will readily consent to vaginal incision and drainage * * *

11. Vaginal hysterectomy with the ovaries left *in situ* is followed by much less nervous and physical disturbance than when the ovaries are removed and the uterus left, or than when they are all removed at the same time.

12. If any one or all of these advantages are admitted in favor of the vaginal operation over the abdominal, then it must follow that it is our conscientious duty to operate by this route more frequently in the future than we have done in the past.

TREATMENT OF THE UMBILICAL CORD WITHOUT LIGATURE.—H. S. Lott (*N. C. Med. Journal*, July 5, 1898,) says that he presents this question with reluctness since favorable opportunities have not offered to test its safety and usefulness; but he has long thought it was unnecessary to tie the umbilical cord. The thought, however, is not altogether new. M. B. Kellar (Jan., '97,) has left the cord without ligature in over 2,000 cases, with good results, "unless the parents were tuberculous or syphilitic." Kellar's reasons: 1 Ligation of the cord is not required at the birth of any other animal. 2. It is not necessary from the formation of the cord and its component vessels. 3. Being unnatural, it may be injurious, interfering with cleanliness and dessication of the stump and, by maintaining the frenicular vessels in a state of congestion and distention from unnaturally retained blood, preventing the establishment of the normal circulation in the child, thus laying the foundation for numerous ills * * * The life of the child in some cases has been saved by removing the ligature. The author adds the further observation that no cases of reported bleeding from the stump were correct, and that in cases where he had arrived at the patient's house hours after the birth of the child, and the "old lady" had tied and cut the cord, the string used and the lax manner of its application would have been very little safeguard against bleeding. It occurred to him that a crushed artery never bleeds and that, since in the lower animals the cord is crushed by the teeth of the mother (as the cow, for instance), a device which will most closely imitate nature will be the best. The author, accordingly, devised scissors for this purpose. They are somewhat like the ordinary umbilical scissors, but the edges are serrated, not sharp, while the lower blade is convex and the upper one concave, and each blade has on its right side a flange for holding the cord after cutting. The following directions are given for the use of the scissors: Always wait until pulsation in the cord has ceased, then seize the cord near to the umbilicus of the child firmly between the thumb and forefinger of the right hand, and with the thumb and forefinger of the left hand strip the cord of its Whartonian jelly for two or three inches, stripping toward the placental attachment. When this is done, sever the cord with a firm compression of the scissors, about one and one-half or two inches from the umbilicus and hold the divided and mutilated stump between the compressing flanges for one or two minutes; after which, dress in the usual manner with a dry, clean cloth and a firmly applied abdominal bandage.

Drainage in Abdominal Operations.—E. C. Dudley (*Memphis Lancet*, August, 1898,) gives a resumé of a lecture on this subject. Two classes of cases present themselves—non-infectious and infectious. In the former the drain is often more potent for the introduction of sepsis than for its removal and should not be employed after a clean operation in a non-infectious case. Cases of infectious origin, on the other hand, call for drainage in a (1) general septic peritonitis, (2) where a nidus of infection is present whence septic matter is continually propagated, and (3) in hemorrhage which cannot be controlled by suture, ligature, temporary pressure or hot sponges. Even large quantities of pus may escape into the abdomen, being free from virulent microbes, and not require drainage. Pus from pelvic inflammatory conditions is usually sterile, the initial infecting organism having disappeared. The evil results of drainage are (1) obstruction of the bowel, (2) fecal fistulæ, (3) vesical complications, (4) hernia. To avoid the necessity for drainage every effort should be made to prevent infection by perfect asepsis, covering raw surfaces, controlling hemorrhage perfectly, and minimum handling of the tissues. When pus ruptures in the peritoneal cavity it should be removed immediately by sponging, if sterile; by free irrigation with normal salt solution, if septic. Drainage may be either tubal or capillary, the glass tube being preferable in the abdomen, and the gauze, or capillary, drain in vaginal operations. The latter may, however, be used from above to control hemorrhage and to shut off the field of operation from the general peritoneal cavity. The use of the gauze here is as a packing rather than a drain. It often acts as an obstruction to fluids. The abdominal route for drainage is objectionable on account of the liability to infection, adhesions, perforation and hernia. The great advantages of vaginal drainage are the minimum risk of hernia, natural and dependent drainage and more satisfactory convalescence. The classical dictum may have to be reversed, and our motto for the future be, "When in doubt, *don't* drain."

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

UNDER THE CHARGE OF
S. POTTS EAGLETON, M. D.,
LATE ASSISTANT SURGEON TO WILL'S EYE HOSPITAL, PHILADELPHIA, PA.; OPHTHALMIC SURGEON TO MARION COUNTY SURGICAL HOSPITAL, OCALA, FLA.,
J. LAWTON HIERS, M. D.,
SAVANNAH, GA.
CARLTON MITCHELL M. D.
NEW ORLEANS.

Massage in Trachoma.—Dr. A. Eugene Frick, of the University of Zurich, in the authorized translation of his work on Diseases of the Eye, speaks as follows of the latest method of treating granular conjunctivitis: that of Keining, in which the exposed conjunctiva of the upper lid is subjected to firm massage with a wad of raw cotton soaked in a solution of 1-2000 sublimate, to reach the fornix the everted lid must be still further turned over, while the patient looks down as much as possible. Of course, the pressure used will depend upon the extent and condition of the trachomatous bodies, the dryer and harder the granules the more firm must the rubbing be, and the more hyperæmic and softer the conjuntiva the more gently must it be handled. He further states, according to V. Hipple, that the results of this method are most encouraging, there being a tendency to the receding of the granulations without leaving scars. Pannus, small ulcers and infiltrations are quick to heal, and the time required for treatment is much shorter than by the other methods. Relapses are not prevented by it, but they heal very quickly when the method is again used. Dr. Albert Hall, of Chicago, who is the authorized translator of this excellent work, prefers massage with iodoform powder, to that with the sublimate solution, giving as his reasons that the powder does not leave behind the ugly gray coating that may on the following day demand a postponement of the treatment, also that iodoform massage is less painful to the patient. [We presume that this method should not be resorted to without at least previously instilling a 10% solution of cocaine, as rubbing or crushing the granulations is an exceedingly painful process, generally performed under complete anæsthesia.—Editors].

The Pupil in Health and Disease.—The *North Western Lancet*, calls attention to the following practical points regarding the appearance of the pupil:

1. That there is no standard of size for the pupil in health, but inequality of the pupils is always pathological.
2. That contraction of the pupil in health should take place upon the application of light stimuli or convergence of the eyes, but not necessarily upon accommodation.
3. That dilatation of the pupil in health should take place when causes producing contraction are removed, or upon irritation of the sympathetic system.
4. That miosis or mydriasis in disease may be due to irritation or paralysis, and that the use of eserine or atropine will determinethis point.

5. That the pupil is a valuable guide in the administration of chloroform and the diagnosis of lesions in the brain.

DIAGNOSIS OF CATARACT.—Dr. Hansell, in the *Philadelphia Polyclinic*, calls attention to the error frequently made in the hasty diagnosis of senile cataract by the general practitioner, who, misinterpreting the reflection of light by transparent lenses in elderly persons, and particularly in those belonging to the African races. The gray color of the pupil is often misleading, and may influence the physician to express his opinion that cataract is present, when further examination with oblique light and with the opthalmoscope will at once convince him that his diagnosis is erroneous.

SARCOMA OF THE ORBIT.—Dr. Alex W. Stirling, of Atlanta, Ga., in the *Opthalmic Record* of July, gives the results of his investigations into twenty-eight cases of undoubted primary orbital sarcoma, occurring at the Royal London Opthalmic Hospital from 1858 to 1893, inclusive. The study of these cases resulted in the following conclusion: Sarcoma attacks both the uveal tract and orbit in males and females in about equal numbers. The average age in uveal sarcoma was 48½ years, varying from 15 to 84, and in primary orbital cases the growth first appeared on the average at 28⅝ years, varying from three weeks to 76 years. There seems to be little tendency for one side to be affected more frequently than the other. The results of operation in primary orbital cases were that, of the ten cases in which the growth alone was removed without clearing out the contents of the orbit, recurrence took place in nine, and the tenth had been under observation for only eighteen months after the removal of the growth. When all the contents of the orbit were removed, sixteen cases, seven had no recurrence after an average of 4⅛ years, and in only three of these latter had a less interval than two years elapsed. Thus, there is a distinct advantage in making as complete removal as possible. Dr. Stirling further says, regarding the prognosis, youth seems to predispose to a fatal termination, as he found that of eight cases under ten years of age four had already died, three were then under observation, having recently been operated upon for recurrence, and that one was quite well after operation seven years ago. Of those older than 2, 30% were dead, 70% were alive at an average interval since operation of over three years. Three years after operation at all ages some 17% were alive, but this is too short an interval to be a guarantee of absolute safety.

NASAL CATARRH.—Dr. Ed. Punction, in the *Journal of the American Medical Association*, concludes a treatise in the above subject as follows:

1. That impairment of ventilation and drainage of the nasal fussæ are the most important elements.
2. That the touching of opposing surfaces is one of the most important pathological factors.
3. That the line of treatment is largely surgical, and the chief object aimed at is to cause the defective nose to conform as nearly as possible to the shape of the ideal standard.

PEDIATRICS.

UNDER THE CHARGE OF

T. PINCKNEY WARING, M. D.,

SUPERINTENDENT TELFAIR HOSPITAL, SAVANNAH, GA.

A Bivalve Plastic Splint for Pott's Disease (Pediatrics August 1st, by Henry Taylor, M. D.) The advantages that may fairly be claimed for the fixed plastic jacket in the treatment of Pott's Disease are its:

1. Small expense.
2. Ease of application and
3. Immunity from meddlesome interference.

Its disadvantages are its:

1. Uncleanliness.
2. Liability to produce irritation.
3. Lack of adjustability and of precision.

The author then proceeds to illustrate by the Bivalne splint the means by which the disadvantages may be eliminated. "The undoubted beneficial effect of the plaster jackets is due, not to the separation of the affected vertebra, but to a fixative support in an improved position." The plastic jacket affords an excellent antero posterior support. Unfortunately, however, it does not of itself by its hold on the thorax, maintain a continued extension, but the jacket and thorax so adjust themselves to each other that active suspension ceases." "If now the plastic jacket acts as a stiff splint simply as a—mechanism, similar principles should be regarded in its application. The posterior half should be rigid and force must be steadily applied from behind forward to the affected region of the spine.

In order to apply the pressure thick strips of felt about an inch wide are fitted to the back either side of the spinous processes, before the plaster is applied.

If for the sake of cleanliness, the jacket is made removeable by being split in front, it soon looses its rigidity and consequently its power of support; and this is not to be recommended while disease is active. If, however, the jacket is cut down in each axillary line, so that it is divided into an anterior and posterior half, each half will retain its shape and rigidity, and may be firmly joined by webbing and buckles; at least four sets are needed on each side; or one side may be joined by a leather hinge. When the jacket is cut down, a strip of felt should be laid across the upper and lower end of the anterior piece to increase the leverage, and one-half inch or more should be removed from each lateral edge to allow for shrinkage and straightening of the body. The fact that the two valves can readily be approximates after this excision shows that, as ordinarily applied, the leverage is insufficient.

The jacket should be made firm and rigid, especially at the edges, and should reach in front from the pubes to the top of the sternum. The splint may be removed to cleanse the back or to note its efficiency, taking the impressions made by the felt pads either side the spinous processes as a guide. If more leverage is needed, the felting may be reinforced, or the depth of the casing reduced by paring the lateral edges. In other words, the jacket has ceased to be mainly a casing, and has become a mechanism under the surgeon's control, and capable of being manipulated to produce definite mechanical results.

THE USE OF THYREODIN IN PEDIATRICS.—Pediatrics for July 15th, in review of Dobrowsky's article in (Arcl. f. Kinderheilkrakhulm XXI, 54) say the following preparations was used by Dobrowsky in the treatment of thirty children at the Monti Poliklinki:

℞ Thyreodini sibcati (non depurati *Merck*) in pulvere.
Sodii bicarbon. áá 0.35
Compressione fiat tabula, D. t. d. æqu. tabul No. xx.

One-half to two tablets were given daily during the first week; during the following week two to four tablets daily, dissolved in soup, milk, coffee, or water.

Nine out of these thirty children were suffering from struma, eight from prurigo, one from obesity, twelve from psychic retardation of development. The result of the experiment was as follows:

A reduction in weight was caused by the thareoidin up to about the fourth week of treatment. After this no further reduction in weight occurred, although the thyrodein was continued. When the remedy was discontinued bodily weight increased for one or two weeks. A case of struma parenchymatosa began to improve within a few days, but the growth did not entirely disappear, and after three weeks no further diminution of its size resulted from the treatment. An acceleration of the pulse was noticed during the whole treatment, but disappeared when the remedy was discontinued. Prurigo was markedly improved by thyreoidin but never cured. All patients were subject to relapses. Idiotic and cretinoid children were not much benefited by the thyreoid treatment. In one patient only an increase in intelligence was observed, while in two others an improvement was noticed in the carrying of the head and body. This improvement was permanent. The condition of the blood was not influenced by the treatment. The sensation of thirst, diuresis, and the excretion of phosphoric acid were increased during treatment. Indican was always present in the urine, occasionally in great quantities. Thyreoidin is a safe remedy if the heart is watched during its employment, and this is of great importance in patients having idiosyncracy for iodine. Dobrowsky calls particular attention to the relapses occurring of the remedy.

Mouth Breathing in Children Particularly as a Result of Adenoids.—(*Annals of Pediatry,* July, 1898,) by Arthur G. Hobbs. —More importance is given by the profession to the nose as a breathing organ and less to its secondary but more prominently considered function of olfaction. As an automatic organ, there are but few in the body to compare with the work performed by the lining membrane of a healthy and natural nasal mucous membrane. It supplies the proper moisture to adapt the air to the lungs by secreting an immense amount of fluid for dry air to pass over, or a much less amount when the air is moist, thus automatically adapting itself to the humidity of the inspired air.

In mouth breathing the inhaled air cannot pass over more than one-half of the moist surface that it does when inhaled through the nose, and this small surface is insufficient to impart the necessary moisture. Hence—and how natural—the parched mouth and dry throat of one who has breathed, during sleep, through nature's auxiliary, the mouth, only.

But this is not all. The other one of the principal functions of the nasal membrane seems even more wonderful in its automatic action. It warms the inspired air when it is too cold for the lower air passages. The arterial circulation of the membrane becomes greatly accelerated by the inhalation of cold air, without reference to its secretory function, and automatically regulates its surface heat according to the temperature of the inspired air. When the air is dry and warm its secretion alone is accelerated, and when it is cold and not devoid of humidity the increased activity of the arterial circulation supplies more heat than fluid.

Mouth breathing naturally results from the constant battle in the circulation of the mucous membrane resulting from quick changes of temperature and humidity in certain climates. And it is fortunate that nature has provided this auxiliary in such cases of need. Yet this substitute may, on the other hand, be considered a misfortune to the growing child when we think of the many results of a chronic stenosis: The circulation of the blood is interfered with, and hence the development of the child is perverted and retarded, the facial expression becomes unnatural, the palate becomes more arched and the nose more flattened, together with many more results so well known to all who see these cases daily.

The diagnosis is not difficult; indeed, by exclusion, the nature and character of the growth can be determined by digital examination as the surest means in children. The finger finds a mass in the superior pharynx that is yielding and gelatinous, with a furrowed surface that imparts a wormy feeling.

A glance at the child or even to have heard his muffled tone is often all that is necessary to form a diagnosis. But the age should be considered and also the extent and character of the deafness, if any, the open mouth with the vacant expression; the imperfect chest development; the ill-shaped nose with its small alæ; the inability to blow the nose, together with the history of snoring, or difficult sleep breathing. On the other hand it does not always follow that the child has adenoids because he snores and keeps his mouth open and is constantly enjoined by the mother and nurse to blow his nose, since a catarrhal tumefaction of the turbinals, enlarged tonsils or foreign bodies such as buttons, beans, etc., deliberately thrust into the nose by the child may have been the cause. In children it is not so necessary to exclude polypi or post-natal abscesses, or bony growths, as these are rarely found at this time of life.

Different men have their own instruments and methods, but the object of treatment is always the same, and that is to remove the obstruction.

CLINICAL TRIALS OF THE ACTION OF DIURETIN.

BY PROFESSOR GRAM, COPENHAGEN.

From very numerous trials the author concludes that Diuretin possesses a very powerful diuretic action, and that this is due to a direct influence on the kidneys. Diuretin is readily absorbed into the system and is wholly non-toxic, as only in one case was slight vertigo experienced. The ordinary daily dose is about 90 grains, which is given in single doses of 15 grains each. The quantity of urine is frequently increased by administration of Diuretin more than five fold.—*Therapeutische Monatshefte.*

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ORIGINAL COMMUNICATIONS.

DIAGNOSIS OF BULLET WOUNDS OF THE ABDOMEN.

By HUGH M. TAYLOR, M. D.,
Professor of Practice of Surgery, University College of Medicine; Surgeon Virginia Hospital, etc., Richmond, Va.

The surgeon's interest in gunshot wounds of the abdomen is largely focussed—1st, in the diagnosis, and, 2d, in the treatment. The diagnosis involves a differentiation between (a) non-penetrating and penetrating wounds of the abdomen; (b) between penetrating wounds with and those without visceral lesion, and (c) between lesions of hollow and solid viscera.

Diagnosis of Penetrating from Non-Penetrating.—Are we able with any degree of certainty to differentiate between the penetrating and non-penetrating gunshot wounds of the abdomen? In the absence of rare evidences, furnished by protrusion of the abdominal viscera or their contents, we can only ascertain positively the existence or non-existence of penetration by a careful dissection along the tubular wound tract through the abdominal wall. This conclusion not only accords with our own limited experience but is in keeping with the progressive surgical thought of the day.

The Use of the Probe.—With few exceptions, the use of the probe to ascertain the extent of the wound in the abdominal wall is discouraged. Not until the probe has been sterilized, and not until the tubular wound tract has been asepticised, can we without danger of increasing infection resort to probing such a wound. The truism of Nussbaum, that "the fate of the wound rests in the hands of the surgeon who applies the first dressing," should, we think, be persistently impressed, as also the equally imperative injunction "never to probe a wound of any character, and especially one of the abdomen, until probe, wound and surgeon have been asepticised," are surgical truths which we cannot reiterate too often.

The finger has been poetically styled a probe with an eye in it. We would urge that the finger needs to be especially well sterilized before it is used to explore a wound. Apart from their potency for evil, the use of the probe or finger as diagnostic means is very unreliable. Movements of the skin, muscular planes, and fascials render it difficult to guide the probe or finger along the tubular bullet tract, and the loosely attached peritoneum may be pushed inward by either probe or finger, giving the impression that the peritoneal cavity had been entered. Circumstantial evidence is elicited by examining the character of the wound of entrance and ascertaining a knowledge as to the distance traveled by the bullet. The larger the bullet, obviously, the larger the wound of entrance. The longer the distance and the greater the number of clothes, etc., encountered, the less the penetrating power. Close discharges may be surmised from powder marks around the wound. Equal staining and clean cut indicates that the bullet entered at right angles to the surface. Unequal staining and irregularity of the edges of the wound of entrance implies oblique entrance and possibly no penetration of the abdominal cavity. This last effect is even more strongly suggested when we have a "long abraided or bruised tract of surface leading up to the penetration." This last conclusion is urged by Greig Smith in his work on abdominal surgery, and he adds in this connection, that "the tortuous wound canal can rarely be followed by a probe without risk of the formation of false passages, and the evidence deduced from probing is always liable to misinterpretation." Dr. Senn, in a recent paper, also takes the same view as to the dangers and uselessness of probing such wounds.

Are there any other means by which we may ascertain the penetration or non-penetration of the abdominal cavity? We cannot agree with Greig Smith, who thinks evidence may be furnished by injecting hydrogen gas into the wound tract as advised by Senn. The idea being that if the peritoneal cavity is penetrated, the gas will pass on into the cavity and distend it. We repeat that we can only ascertain the extent of the wound by laying open the bullet track to its terminus, and there seems to be little if any doubt as to the propriety of such a step in all instances.

Differential Diagnosis Between Penetrating Wounds with and Without Visceral Lesions.—Having ascertained by a careful dissection along the wound tract that the peritoneal cavity has been penetrated, we are next called upon to ascertain the presence or absence of visceral lesions. This is a matter of greatest importance, and the symptoms to be of value must be manifested early. Can we make the differential diagnosis in any other way than by celiotomy and a thorough examination of the abdominal contents? Are we justified in all instances on finding a perforation of the abdomen, and in the absence of symptoms of visceral lesion, in opening up the abdomen to examine its contents? We agree with a majority of surgeons in thinking an exploration called for in all cases because of the fact that we know of no symptom or chain of symptoms by which we can discover beyond all question the extent of the intraperitoneal injury.

SHOCK.—Does the presence or absence of shock indicate the presence or absence of visceral lesion? A simple contusion of the abdominal wall may be attended by profuse shock, while a penetrating wound with multiple visceral wounds may exist with little or no appreciable shock. This is a clinical fact so well known that we need hardly mention it. The presence or absence of shock is in no way significant, but the behavior of shock in many instances is, we think, a guide of signal importance. We cannot illustrate our views upon this point better than by referring to the manifestations in a case recently seen, in which we think it was demonstrated that the time of the onset of the shock, syncope, or collapse (we use the terms synonymously), is a guide to be depended upon.

The wounded man, a station agent, after being shot, walked into his office, telegraphed to Richmond for assistance, and then walked several hundred yards to his boarding house. This history is only interesting in that it shows actions inconsistent with the existence of profound shock. The wound of entrance was in the epigastric region near the median line. A downward direction was inferred as the pistol was fired from the top of a coal car while the wounded man was standing on the ground. When seen an hour after the injury, in spite of considerable suffering and fatigue incident to traveling to Richmond, there was no appreciable shock. His morale was good. His temperature was normal, his skin dry, and his pulse strong, slow and regular. He vomited once after being seen, but there was no blood in the vomited matter. About three hours were consumed in getting the patient to a hospital and in preparing patient, operating room, etc., for an aseptic celiotomy. In that time, in spite of the administration of strychnia and morphia, hypodermically, and a saline solution and whiskey per rectum, the patient had progressively lapsed into a condition of collapse. Guided by the clinical picture thus presented, we were satisfied prior to an exploratory incision that there was penetration with visceral lesion and intra-abdominal bleeding. It was inferred that hemorrhage from a wounded intercostal artery or the internal mammary would have been evinced by significant external bleeding. A section of the wound track revealed penetration of the peritoneal cavity, and celiotomy disclosed profuse bleeding to have occurred from perforation through the free border of the stomach near its cardiac extremity and also a perforation of the left lobe of the liver about an inch and a half from its free margin. Neither wound was bleeding at this time—shock, nature's beneficent hæmostatic, had come to the rescue. Several pints of blood, mixed with fluid contents of the stomach, were removed from the peritoneal cavity, the stomach wound sutured, the liver wound packed, and the patient made an uneventful recovery.

We recall another case of pistol wound, with penetration of the abdomen and perforation of the liver, in which we were able to infer a visceral lesion by the time of the onset of shock. This man, a police officer, was shot while trying to make an arrest. Hardly conscious of being shot, he chased his assailant several hundred yards and then walked half a mile to his home. For an hour or more there was little shock. By the time we had moved him to a hospital and were prepared to do an aseptic operation (several hours) he was collapsed. In both of these cases the wound of entrance was above the umbilicus, and in both we had to recall the fact that there is a much greater likelihood of no visceral lesion from a wound above the umbilicus. In both instances the bullet's course was from above downwards, perforating in one case, and lodging in the other near the crest of the ileum. By the absence of primary shock and the appearance in a few hours of profound shock we were able to diagnose penetration with visceral lesion. Shock from a penetrating wound of the abdomen without visceral lesion, if it occurs at all, will be instantly manifested, reach its acme at once and pass away under appropriate treatment in the usual time. On the other hand, shock followed by reaction and renewed shock, points to shock of injury from which the patient reacts, and this reaction is followed by shock of hemorrhage or that incident to extravasation of hollow visceral contents.

During the continuance of the shock of injury bleeding is held in abeyance; with the passing off of the shock of trauma reactionary hemorrhage ensues, and with it we have the shock of hemorrhage or acute anæmia. Hence, in abdominal wounds shock with reaction and succeeding shock points to intra-abdominal bleeding from visceral lesion. Delayed shock, as illustrated in the cases we have reported, points significantly to intra abdominal bleeding and of course to visceral lesion. Delayed syncope or shock points to intra-abdominal bleeding from small vessels; in this instance time is necessary for reactionary hemorrhage and sufficient bleeding from small vessels to induce renewed shock. A wound of a large vessel like the aorta, iliac, renal or hepatic, would be attended by immediate collapse and death. Of course the shock of hemorrhage may ensue so rapidly as to be merged into the shock of injury, but we think, in a majority of instances, valuable information will be afforded, especially as regards wounds of the solid viscera, by the intelligent observation of the symptoms as they are manifested. Shock delayed for ten or twelve hours will usually point to hollow visceral lesion with escape of contents and the advent of septic peritonitis.

PAIN.—Observation and study have led us to attach but little significance to the presence or absence of pain as distinguishing between the different types of abdominal wounds. By a majority of writers it is held that we may have perforation with multiple lesion and but little pain, while a wound limited to the abdominal wall may be very painful. In this connection I must quote from one who has had an experience with fifty cases. I allude to Dr. W. S. Parker of New Orleans. "Although," he says, "most writers tell us that pain is in no way characteristic of these cases, the most constant symptom that we have observed has been pain referred to the umbilicus." He affirms that he has "never seen a case of penetrating gunshot wound of the abdomen in which this symptom was absent." I recall the fact that Dr. Hunter McGuire, in a paper read before the American Medical Association, twenty-five years ago, spoke of the pain as acute, colicky, resembling a green-apple bellyache. This paper was one of the pioneer papers in which early operative interference was urged.

Vomiting.—A majority of writers fail to find in the presence or absence of vomiting blood a guide. Not infrequently when there is a wound of the stomach no blood is found in the vomited or syphoned contents of the stomach. In the case we have reported, although there was a perforation of the stomach and free hemorrhage into the peritoneal cavity, there was no blood in the stomach contents vomited in our presence. Stomach and intestinal contents pouring out into the peritoneal cavity is much more likely to carry the blood also into the peritoneal cavity. Protrusion of the mucosa into the wound also helps to block the entrance of blood into the lumen of the wounded viscus. In this connection we may mention that Greig Smith says: "One of the most important symptoms is a feeling of nausea, frequently accompanied with vomiting." We cannot agree with Mr. Smith when he says, "This is not common in false shock." We think both nausea and vomiting are equally common in traumatic and physical shock. Certainly vomiting, *per se*, is no guide, and even the presence of blood in the vomited contents is not conclusive of penetration of the stomach, since not infrequently a simple contusion of the stomach wall may result in hemorrhage into the cavity of the stomach.

Blood in Feces.—We cannot wait for blood in the feces even if its presence was noted; we would not know that it did not come from a contusion of the intestinal tract and not necessarily a perforation. Air escaping from or diffused in the cellular tissues surrounding the wounded tract is no longer considered a guide, as it may have found its way in through the wound of entrance or be gas from putrefactive changes.

The protrusion of viscera or their contents through the wounds is an exceptional occurrence, notably so in the case of the small jacketed bullets from high power guns.

Blood in the Urine, while strongly suggestive, is not confirmative of a perforation of the genito-urinary tract. A perforation of the peritoneal wall of the bladder may be ascertained by drawing off the urine and then injecting a measured quantity of aseptic fluid into the empty bladder. If the bladder readily distends, and if in a short time as much of the fluid is withdrawn as was put into the bladder, the inference is strong that there is no perforation of the bladder. This evidence, of course, does not preclude a possible lesion of the ureter or pelvis of the kidney.

Gastro-Intestinal Tract.—The most important intra-abdominal wounds to diagnose early are those involving the gastro-intestinal tract. We have seen that shock, pain, vomiting, etc., do not furnish evidences at all conclusive. It is held that we may with almost certainty expect multiple bowel perforation if the abdominal cavity is penetrated below the umbilicus, while the outlook is better if the wound of entrance is above the umbilicus. We think such a wound as the former, without visceral lesion, must be so rare it is a pity it ever occurs, as it inclines not a few to wait for urgent symptoms before resorting to operative interference.

Before considering the diagnostic means of perhaps the greatest importance, let us look at the probable evidence afforded by escape of *intestinal gas into the peritoneal cavity* and inducing hepatic resonance in place of normal liver dullness. Theoretically, an escape of gas from the intestines into the peritoneal cavity and the insinuation of this gas between the lower ribs and convex surface of the liver should furnish reliable information, but it depends upon a sufficient escape of gas, an absence of adhesions between the liver and parietal peritoneum of the chest wall and diagnostic acumen sufficient to detect the gas.

A majority of writers allude to this diagnostic means, but as far as we have been able to ascertain but few rely upon it. To be of service it must be manifested early, as intestinal paresis from sepsis will very quickly cause distension of the intestines and efface livid dullness.

SENN'S HYDROGEN GAS TEST.—Many years ago Dr. Senn brought to the attention of the profession this means of diagnosing perforation of the gastro-intestinal tract and its technique is well known. We do not think this diagnostic means has been as well accepted by the profession as it merits. A majority of writers do not write encouragingly about it. Dr. Senn, however, has never lost confidence in it as a means of diagnosing an intestinal perforation. He has upon every occasion urged its use. He thinks by this means we may avoid an exploratory incision, and evisceration for diagnostic purposes. The objection to the use of hydrogen gas or filtered air does not appear to me to be logical. It has been claimed that the gas is rarely available when needed, that the paraphernalia, *i. e.*, the rubber bag from which and by which we are to drive the gas or air into the intestines under pressure and under an anæsthetic, is not often conveniently at hand. This is not a fault of the method. If we can accomplish by means of rectal insufflation what Dr. Senn has accomplished, it is the duty of the surgeon to provide the needed apparatus. In 16 cases of gunshot wound of the abdomen Dr. Senn was able to find no lesion in two and, of course, no need for an exploratory incision. The objection to this practice so often urged, that distension of the bowels makes it more difficult to return them if a section is made, is not sufficient.

By rectal insufflation only can we ascertain without an exploratory incision that there is no bowel perforation. Exploratory incision and rectal insufflation are our only guides available soon enough to enable us to do preventive work. The task of returning distended bowels is by no means a serious undertaking, and if it can show no intestinal wound, no section, and evisceration will in the experience of Dr. Senn and Greig Smith be necessary. For that matter, an opening in the bowel could be made to let the gas out. The surgeon does not fear the intestinal lesion, his fear is that he will not find them all. The mortality is due to not getting at the lesions early and in overlooking one or more. It has been held that leakage of the intestinal contents into the peritoneal cavity is ensured by distending the bowels. I do not believe that a wound of the small bowel will ever occur without leakage of its fluid contents. I think it a pity that the idea should ever be held that leakage may not occur, as it encourages a supposed conservatism almost inevitably fatal.

The mission of insufflating the intestines with gas or air is to ascertain prior to an exploratory incision the existence of an intestinal lesion. If it will accomplish this, we are not excusable for not using it because of the trouble, etc., incident to its use. Its second mission is to ascertain the location of the lesion after the abdomen has been opened, and by this means avoid evisceration and handling. The second mission, it seems to me, to be of minor importance as compared to the first.

SOLID VISCERAL WOUNDS.—Can we differentiate between wounds involving the solid viscera from wounds limited to hollow viscera? We do not think this is possible with any degree of accuracy, nor do we deem it essential as in a majority of instances of both classes of wounds, operative interference is indicated. We should recall that multiple wounds are the rule and that both solid and hollow visceral wounds commonly exist. The symptoms and dangers incident to solid visceral wounds are due to hemorrhage. Recalling the fact that the symptoms of hemorrhage (usually parenchymatous) are not manifested immediately and are progressive, we can sometimes quite accurately diagnose intra-abdominal bleeding, but there may also exist multiple hollow visceral perforations, without significant symptoms of perforation until the advent of septic peritonitis. Unless we can eliminate intestinal or visceral perforation by distending those organs, we cannot eliminate perforation except by a celiotomy.

BLOOD IN THE ABDOMINAL CAVITY.—Dullness on percussion in the right and left colic regions—varying areas of dullness with changed position of the patient and fullness in the cul de sac—may afford evidence of abdominal bleeding. But in estimating such evidence we must eliminate distension of colon, etc., from fœcal matter, and we should further regard the fact that extensive bleeding must have occurred before its presence can be appreciated. Ideal surgery contemplates operative interference to prevent the disastrous consequences of profuse bleeding and acute anæmia.

Briefly we would urge: I. That an X-ray examination locating the bullet in the abdominal wall is the only contingent which warrants us in not laying open the tubular bullet track down to the peritoneum to ascertain if the cavity has been penetrated. II. That we are justified, if ever, in non-operative interference only in the event of Senn's hydrogen gas affording evidence that there is no hollow visceral lesion, and the absence of symptoms of hemorrhage leads us to suppose there is no solid visceral lesion. III. That until our means of differential diagnosis is very markedly advanced the safe and conservative course in all penetrating wounds of the abdomen is to open the abdomen early and do thorough and quick intra-abdominal work.

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DECI-NORMAL SALT SOLUTION.*

BY VIRGINIUS HARRISON, A. M., M. D.,
Lecturer on the Practice of Surgery, University College of Medicine,
Richmond, Va.

To accomplish great results we naturally expect to use great efforts. These same results may often be gained in a very simple way. No better illustration of this fact can be cited than in the use of the deci-normal salt solution, whether given by intra-venous or by subcutaneous infusion (hypodermoclysis), or by rectal injection (entero-clysis). In my opinion there is no medicinal agent used at the present time that has such a varied field of usefulness, is simpler in its application, more prompt in its action, and more certain in its results. Surgery cannot claim it as a means belonging solely to that branch of medicine, for some of its happiest results are manifested in its application in obstetrics and the practice of medicine, when the system has been poisoned by alcohol, opium or ptomaines of any nature.

The source of the poisoning does not so much determine the usefulness of the saline as does the promptness with which it is used.

USES IN SHOCK AND HEMORRHAGE.—When we see cases of shock, whether it be due to an impression made upon the nervous system, as from a blow, or due to a local vaso-dilatation of large blood vessels, as in the abdominal cavity, or to direct external hemorrhage, there is no method of treatment that I have seen act so promptly and with as good results as the saline solution. The method to be used must be governed by the demands of the case. Very profound shock will require the direct infusion into the vein, while a less degree will only call for the subcutaneous infusion, and a still less degree of shock will require the rectal injection. One point of importance to remember when using the infusion after hemorrhage, is to secure all bleeding points. Unless this precaution is observed you may find that the infusion has been of little service, and on inspection of the wounded parts you will find that the solution has followed the blood through the open mouths of the vessels. I saw this illustrated in a case of injury to the skull. Pieces of the bone had been driven into the brain by a blow from a locomotive. The longitudinal sinus had been ruptured. Intra-venous infusion was resorted to with an almost immediate outpour of the solution through the wounded sinus.

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* Read by title before the Medical Society of Virginia, at Virginia Beach, Sept. 1st, 1898.

Another case illustrating this point was that of a man who had been shot in the abdomen with a pistol. He was infused by Dr. Hugh M. Taylor with no good result. On opening the abdomen the stomach was found perforated, and a large hole in the liver, from which the solution had escaped along with the blood. While in these two cases the bleeding points could not be secured at once, they serve to illustrate a point well worth noting.

I have seen the saline do good in shock from chloroform. One case I recall was that of a man who had been operated on for appendicitis. The case was a bad one, requiring some time for its completion, and necessitating the use of a large quantity of chloroform. After the operation he was profoundly shocked. Intra-venous infusion was immediately resorted to by Dr. Taylor, which was followed by a return of the pulse at the wrist, and in a few hours the patient had recovered from the shock. But for the timely use of the infusion I have no doubt that a life would have been lost.

I have seen the saline solution do good in the crisis of pneumonia, when the patient is weakened down by the sudden dropping of the temperature accompanied with profuse sweating.

Shock may also be *prevented* by the timely use of the saline solution, or, if not prevented, may be lessened in degree. One method of preventing shock is by rectal injection of a pint of the solution before the commencement of the operation. Even if the shock should supervene the infusion subcutaneously or direct into the vein should be resorted to according to the demands of the case, thereby enabling the operations to be completed, which would be very hazardous to continue without its use.

The time when to resort to salines should be left to the anæsthetizer, who is *supposed* to be watching the condition of the patient, and should be used before the shock has been profound—this latter would more apt to be the case if left to the operator. The post-operative rectal injection of this solution is valuable in aiding reaction from shock incident to the operation and the chloroform, and also in relieving post-operative thirst. To leave the abdominal cavity filled with the solution is useful in floating the intestines, and in taking up the remaining blood, etc., and carrying it to the upper part of the cavity where the lymphatics are larger and more numerous, as well as being taken up *in the blood.*

Sepsis—In sepsis, from any cause, we have a very valuable agent in deci-normal saline solution. To relate its value in surgical sepsis I know of no better way than to report two cases that were treated with this solution. The first case was that of profound sepsis following an operation for double-pyosalpinx. For a week her temperature ranged from 104 F. to 106 F.—never lower. After resorting to all means that occurred to me, I tried the rectal injection of the saline with a fall in temperature to 100 F. in twenty-four hours. These enematas were continued until the acute sepsis was over and the patient well on the road to recovery.

Another case worth reporting in this connection was one of septic peritonitis. After opening the peritoneal cavity and draining I found the pulse continued rapid and the temperature high. The saline enemas were resorted to, which were followed by a diminution of the temperature and improvement of the pulse. The salines had to be continued for a long time, measured by weeks, until the patient finally recovered. These two patients, in my opinion, would have died had it not been for the salines. Had I to treat these conditions again I would use the subcutaneous injections at first and follow with the rectal injections. These results are not unique, for they occur continuously in the hands of surgeons who use the saline solutions.

I have used these solutions in puerperal sepsis with very gratifying success. Numerous cases of success have been reported by various observers. The subcutaneous method seems to be the one that is preferable unless the intensity of the infection is very great.

Renal Insufficiency—Lavage of the blood with the saline solution in that condition called uræmia has saved lives that seemed almost hopeless. It has improved patients before they have gone as far as the urgent stage. If we have symptoms of uræmia, in the early stages we can do much for our patient, but, as a rule, we do not find that our patient has uræmia until the kidneys have ceased to act well, and the urea is retained in the system in great quantities, as well as the other toxic elements which go to make up the condition known as uræmia. In the early stages the rectal enemas may be sufficient to enable the skin and kidneys to eliminate the poison, but in the latter stage either the subcutaneous or the intra-venous infusion will have to be resorted to. Two cases of this kind I have treated recently with salines. The first case was in the seventh month of her eleventh pregnancy, and had had one convulsion a few moments before I saw her. As she was at that time quiet I ordered a large saline enemata to be given at once, and that to be repeated every four hours. This was continued for three days and was then stopped by her as she said she was well. The fourth day I again saw her after she had had two convulsions. They continued until she had nine. The salines were again given by enemata, and this time they were kept up until the skin and kidneys were eliminating the poison and acting freely. The patient went on to full term, through labor, and had an uneventful convalescence without the return of the convulsions.

Case second was that of a primipara. I saw her at the sixth month of pregnancy. She had symptoms of uræmia, indicated by the urinary examination as well as by the swelling of her legs. By the seventh month she had swollen to such an extent that I put her to bed and on a milk diet. I used several diuretics without reducing the swelling or causing much increase in the amount of urine voided. I now put her on the saline treatment and gave it by rectal injection. In a very few hours the amount of urine increased; in twenty-four hours the swelling began to diminish and continued to do so as long as I kept up the salines, but so soon as I left off these the swelling began to increase, showing that the salines were the means of improvement. The condition of my patient was such as to keep me on the lookout for convulsions, yet she had none before, during or after labor. When the convulsions are present the salines play a very important part in the treatment. To bleed the patient of a large quantity of the poisoned fluid and fill the vessels with the salines is now considered the best treatment by many. It has been advised to bleed from one arm while you infuse into the other arm at the same time. I see no objection to severing the vein, putting forceps on the distal end temporarily until you can insert and secure the infusion apparatus in the proximal end of the vein, and then allow the bleeding to take place from the distal end of the severed vein. Should you allow the bleeding to take place at first the blood would interfere with the proper introduction of the infusion tube. A note of warning has been sounded in regard to the use of the salines in organic disease of the kidneys, particularly in old cases. Opinions differ as to the advisability of their use in these cases.

TYPHOID FEVER.—I have seen the patient pale and pulseless from hemorrhage into the intestines improve under the intra-venous infusion. The pulse increased in volume and became slower, the respiration more natural and the color return to the lips. By this means we may tide the patient over the shock and hemorrhage until the bleeding points become plugged. This agent may be of service when we wish to eliminate the poison more rapidly, when the temperature is high and the nervous system excited. I have seen recommended the use of the solution by the rectum at the temperature of 32 F. to reduce the fever. Allow the solution to remain in the bowel for fifteen minutes and it will return at the temperature of 100 or over, thereby reducing the fever of the patient to a small degree at any rate.

Another time to employ this agent is when perforation has taken place and intense shock has followed. Here you wish to keep the patient up until you have time to prepare for an operation to suture the rupture. A case in point I operated on forty-eight hours after the perforation. The boy was more dead than alive, yet under the intra-venous infusion he stood the operation well and was in no worse condition after the operation than when it was begun. This case died later in the night from septic peritonitis present at the time of the operation.

The good results following the use of the saline solution in these conditions of ptomaine poisoning seems to justify the expectation of benefit to be derived by their use in opium poisoning, alcoholism, and, in fact, any condition where the blood has become charged with a poison from any source.

These solutions have been used in the *algid stage of Asiatic cholera.* Large quantities have been introduced into the vein and often repeated, with the result of curing twenty per cent. of the cases, which is a larger proportion than by any other treatment of this stage of cholera. They have also been advised in the treatment of diphtheria and scarlet fever. I have recently used the solution in the treatment of nephritic colic, and I certainly think it lessened the severity of the attacks.

Physiological and Clinical Action.—All that is accomplished by the saline infusion may not be well understood, but as this agent is more generally used and carefully studied, we will be in a better position to know its action. One fortunate thing about its use is that it does not poison the system. If the solution is given very rapidly or with a great deal of force we may rupture some vessel in an important organ. The solution fills the empty blood vessels, thereby stimulating the heart and arteries to action, supplying the anæmic brain with its proper stimulus. It takes up the remaining red blood corpuscles and puts them into the circulation. It stimulates the skin and kidneys to action, it also stimulates the intestinal canal, causing it to excrete more fluid. Having opened these three avenues of escape, the elimination of the septic material is materially hastened. The solution does more than this—it dilutes the intensity of the poison circulating in the blood and lessens the effect upon the system. There is increased leucocytosis aiding in the destruction of the toxic elements.

Whether these statements represent all that is done by the saline solution or not, we *do know* by their use the condition of the patient is often changed from one of impending dissolution to that of restored normal heart action, increase in the volume of the pulse and regular respiratory function. This restoration is often permanent, requiring only one infusion; should it be necessary to repeat the infusion it does not add much to the danger. The temporary rise of temperature of a degree or two observed by some is followed by a fall to near normal, and if the fever has been high will be of benefit to the patient. I have used the salines both by subcutaneous and intravenous methods a great many times and have never seen any rise in the temperature after its use.

Technique.—The apparatus necessary for the direct intra-venous infusion is simple and should always be at hand. A fountain syringe with a common glass eye-dropper will be all that is necessary. If this is not convenient, a Davidson's syringe will answer. There are special tubes for the introduction into the veins, but I doubt if they have much advantage over the more simple apparatus, except they are more easily applied and retained in position better. Whether the special apparatus or the glass tube is used, the retention in the vein is secured by throwing a ligature around the vein and tube. When introducing the tube into the vein, the solution should be allowed to flow until the water in the tube has become warm and allowed to remain flowing while introducing, to prevent air getting into the vein. The vessel usually selected is the median basilic or cephalic at the end of the elbow. I think the left arm should be the one selected.

The subcutaneous infusions the fountain syringe with a small aspirating needle is all that is required. The solution is infused into the sub-mammary or thigh tissue, using gentle massage to hasten absorption. It is hardly necessary for me to remind you that all appliances and instruments as well as the hands of the operator and assistants should be rendered aseptic; this is equally true of the field of operation.

For the rectal injection we need only a syringe with a rectal nozzle and the solution. Nothing needs to be sterilized, and is ready both in the most rural district and the metropolitan hospital, consequently no one is excusable for not having this life-saving agent.

THE SOLUTION.—The *normal salt solution* consists of 58.4 grammes to the litre. The *solution used* contains 5.85 grammes to the litre; hence it is the *deci-normal solution* instead of the normal solution as it is usually called.—(Gaynor, *American Journal Obstetrics*, August, 1898.)

We generally accept that the solution consists of one hundred and five grains of salt dissolved in thirty ounces of water, both sterilized. For all practical purposes one teaspoonful of salt to a pint of water will be near enough the correct strength. The temperature of the solution should be 105 F., so that it will be near the temperature of the body by the time it passes through the tubing. The force used for the intra-venous method should be that of holding the bag about three feet above the patient's body, and for the subcutaneous method the bag should be held about four or five feet above the body. The quantity ot the solution to be used in the intra-venous method will depend upon the effect upon the patient, usually a pint and a half. For the subcutaneous method a quart may be used. You can infuse in more than one location, so that the absorption will take place more rapidly.

A NEW INFUSION APPARATUS.—This instrument, devised by me for intra-venous infusion, and made by Messrs. Bartlett, Garvens & Co., of Richmond, Va., consists of two parts—the first is a tube made of silver, one end being probe-pointed, with an eye in the point; this is the end that is introduced into the vein. The other end is larger and is furnished with a stop-cock. The second part of the instrument is a nickle-plated tube, also furnished with a stop-cock about its middle; one end of this part is for the attachment of the rubber tubing of the syringe, while the other end fits snugly in the free end of the first part.

The advantages claimed for this instrument are, first, the tube can be left in the vein as long as desired or needed without any danger of air getting into the vein, the flow of saline being stopped by the cock before detaching the second part; second, the intelligent nurse can infuse the patient if this has been left in the vein, while to await the surgeon's arrival would, in some instances, mean to have waited until hope was gone. The third advantage claimed is the assistant using this apparatus has control of the rapidity of the flow, as well as stopping it entirely at will, by means of the second stop-cock.

No assistant is necessary to hold the bag and to manage the flow. The whole apparatus can be sterilized by boiling.

2706 East Grace St.

THE TOPICAL USE OF ALCOHOL IN PUERPERAL INFECTION.

BY GEO. H. NOBLE, M. D.,
Atlanta, Ga.

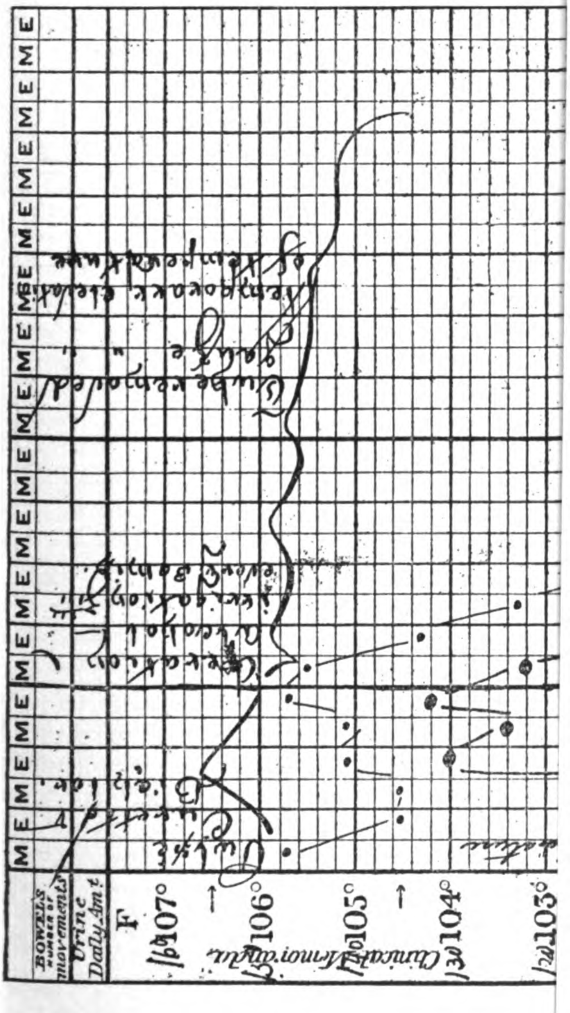
The purpose of this short paper is to further the introduction of a measure for the relief of septic infection that is proving itself of very great value to the profession; consequently no attempt at an exhaustive treatment of puerperal sepsis in general will be made, but will be limited to such remarks as may be necessary to clearly define the uses of alcohol as a topical agent.

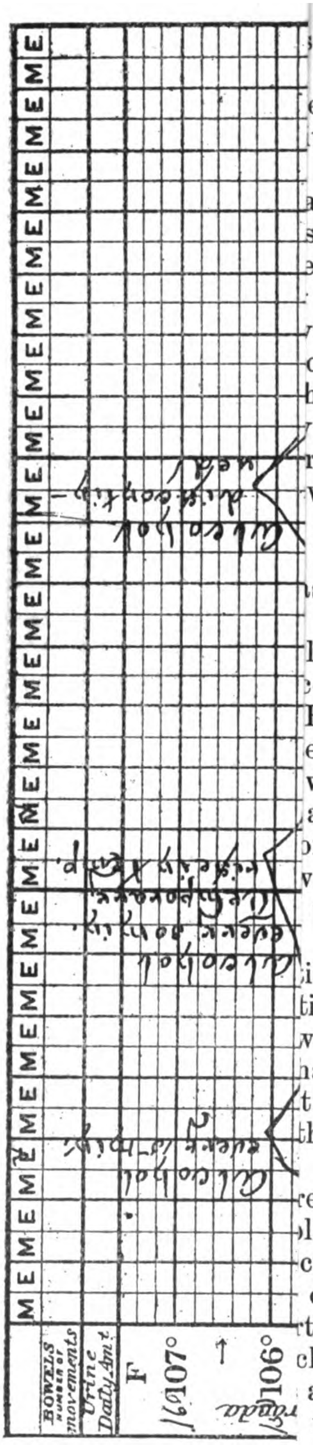
It is equally applicable to cases of saprophytic and pus-producing infection, so that no distinction need be made regarding the form of infecting bacteria.

The intelligent use of alcohol, therefore, depends more upon an accurate knowledge of the extent of the infection than upon its character.

It must be assumed at the start that the infection is confined to the cavity of the uterus, the mucosa, the thrombi in the ends of vessels and the placental site; otherwise local applications must become useless. If pyosalpynx, uterine abscess or peritonitis exists, the disease has gone beyond the reach of such measures. Diagnostic ability will be called upon to determine suitable cases, and where it fails to make proper selections, failures must be expected, for the man who, to-day, fails to make the distinction between infection restricted to the cavity of the uterus and that which has gone into the deeper tissues, is the man who is losing his patients.

After thoroughly cleansing the uterine cavity, introduce a sterile rubber catheter, which has had previously attached to its tip a strip of sterile gauze about as wide as the thumb and two yards long; then carefully insert the gauze around it, taking care not to pack tightly, as its object is to act as a retainer for the alcohol, and not as a drain or tampon. A few drachms of 95 per cent. alcohol is injected through the catheter every fifteen to thirty minutes until





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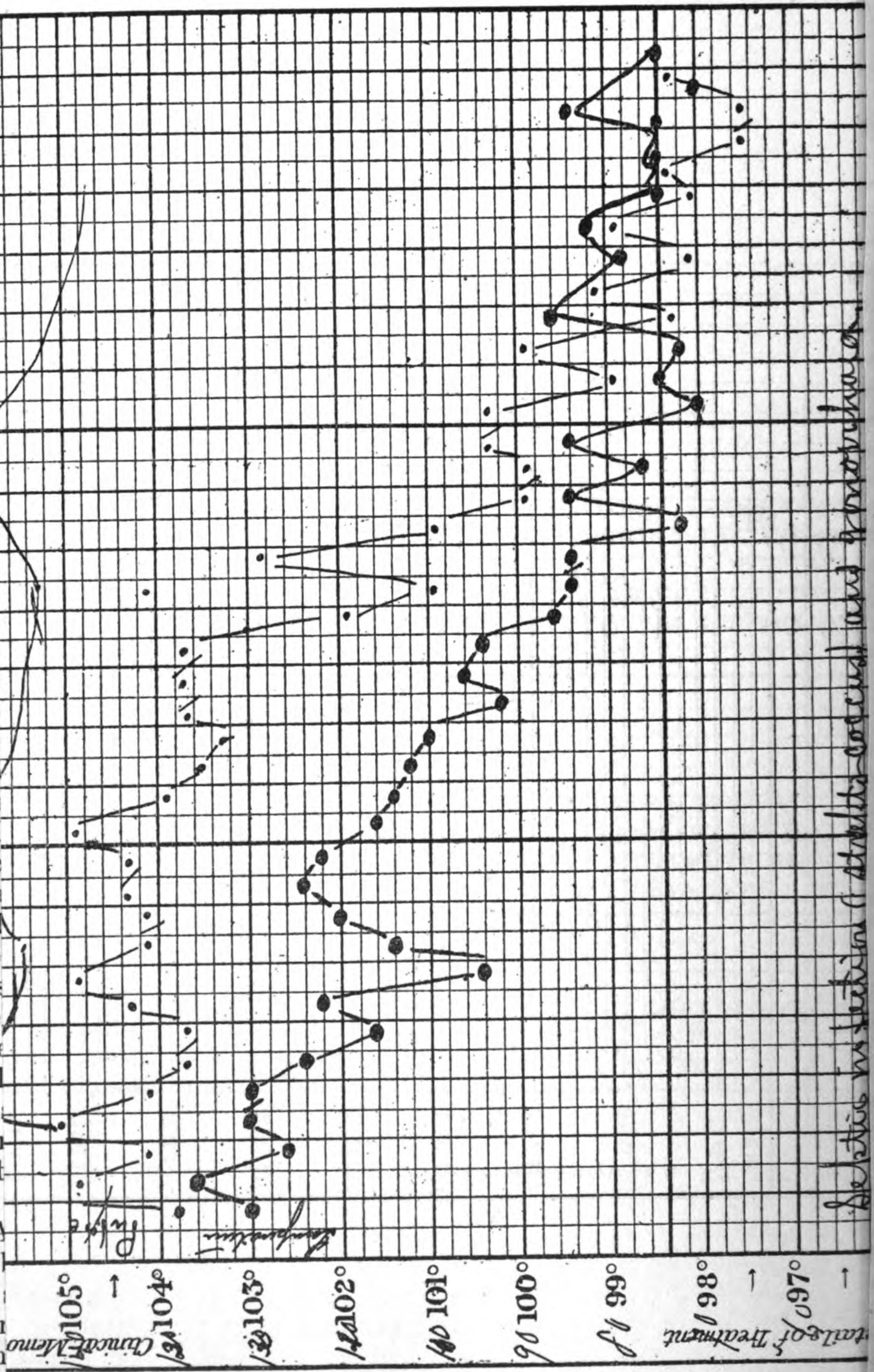

marked improvement has taken place, and as the case progresses the intervals are increased. The end of the catheter projecting beyond the vulva must be kept thoroughly buried in sterile or antiseptic gauze to prevent renewed infection through the instrument.

Carosa uses 25 per cent. alcohol, but the writer finds that there is no danger in the careful use of the stronger preparation, and as it is a very much better antiseptic, its use is commendable.

These dressings are left in place for five or six or eight days, when ordinary supporting method will answer, unless the sepsis is marked, then it may remain longer, except when the drainage is interrupted by coagulation in its meshes; in that case it may be replaced by fresh gauze. So far I have not found it necessary to use more than one dressing in the uterus. This first chart shows that the case treated by the ordinary mode of curetting and bichloride of mercury irrigation progressed irregularly and unfavorably up to the fifth day, when the alcoholic treatment was adopted. From that time on the temperature and pulse curve shows a steady downward tendency until recovery.

In other cases it was quite noticeable that when the intervals between the injection of alcohol were increased too soon there was a temporary rise in temperature.

The second chart represents the progress of an apparently hopeless case. She was brought into the hospital twenty-two days after confinement. Had mixed infection, streptococci and gonococci. Extremely anemic, semi-conscious, feeble and rapid pulse, high temperature and saturated with infectious matter. The uterus was cleansed under ether. Two spots about the width of the finger and an inch long, of soft tissue, were scraped away, the curette going nearly through the uterine walls. Other parts of the uterus were apparently healthy. The alcohol treatment was used, and with the excellent results shown upon the clinical chart.

A very surprising feature was the absence of chills after curetting, a feature observed in each case that came under my observation. These two cases are fair examples of the number treated in this way, and illustrates the ease with which patients of this class are handled. After the gauze is once introduced the nurse does the rest by frequent injections of alcohol, which, indeed, is less laborious than the usual douching, etc.

One great beauty is that any one who can be clean and careful can use this treatment, and when once used its subsequent employment in similar circumstances is insured. So far I have directed the treatment of eight or ten cases, which were seen late, with one exception, and it came in on the second or third day after abortion with high temperature, for saprophysis; was curetted and douched antiseptically, but the pulse and temperature curves were erratic and high. On the fourth day the house surgeon was instructed to use the alcohol the next time the temperature went up to 103 degrees, which occurred in the succeeding twelve hours. The result was prompt and favorable. Thus acting in cases of putrescent material as well as in septicemia, the alcohol must possess the power of preventing the development of spores. It acts best in cases where the water in the tissues is greatest, thus suggesting that its dehydrating properties take away from the spores one of the necessary elements conducive to their development, *moisture*, and substitute an antiseptic (alcohol).

It may be employed in connection with other treatments, for instance, the anti-streptococcus serum, surgical measure directed to the relief of pus or septic matter in the appendages, peritoneal cavity, etc., where there is coexisting infection of the uterine cavity, thus cutting off constant renewals of infection at the point of origin, and also affording some stimulation by absorption of alcohol. As alcohol possesses no mean antiseptic properties and is possessed of less danger than most active agents of this class, it is but reasonable that its employment in a way that keeps the parts in a constant bath must give better results than an occasional douching of stronger and more irritating solutions.

TREATMENT OF PELVIC INFLAMMATION THROUGH THE VAGINA.

By WM. RICE PRYOR,
Professor of Gynaecology, New York Polyclinic,
New York.

Most of the vaginal operations are either exploratory or conservative, or evacuative and palliative, or radical.

The Exploratory Vaginal Operation.—In pus cases with immovably-fixed organs this is digital, but entirely satisfactory in determining the operative procedure to be followed.

The incision is made into the posterior cul-de-sac, and may be either the crescentic cut I employ, or this supplemented by vertical section of the posterior vaginal wall, as done by Henrotin.

In cases which are not attended by diffuse peritonitis and suppuration, cases of acute purulent salpingitis, hydrosalpinx, adherent occluded tubes, the various ovarion lesions, and those lesser degrees of tubal suppuration that make up the vast proportion of the inflammatory cases which come to us, the exploration may be made both visual and tactile.

Not so much the intra-pelvic adhesions as the condition of the tissues about the cervix prevent a view of all the structures in the pelvis.

In fact, those cases in which pus does not exist at all, cases of advanced genital sclerosis, have so dense a peri-cervical ring that inspection is sometimes most difficult.

Even firm and dense adhesions may be severed through the cul-de-sac just as well as through the belly, and the uterus rendered moveable.

When the uterus has been freed from posterior attachments it is lifted up out of the pelvis behind the symphsis, while the posterior flap is drawn down. Now if the table be tilted to an angle of 40° the pelvic floor relaxes and the intestines gravitate into the abdomen; more space is gained at the vulvar orifice and an unobstructed view of the pelvic contents may be had.

All this has been done by severing but two anatomical layers, the vaginal mucosa and the peritoneum; no vessels requiring ligature have been cut; and the intestines and omentum have not been handled.

The possibilities of this method of examining the pelvic contents are limited by the pelvic margins only. A great number of times I have shown the vermiform appendix. I have demonstrated high cancer of the rectum; the obstructed and dilated ureters; pelvic exostoses and all the various lesions of the adnexa uteri and pelvic peritoneum.

The essential to success with this method of exploration is that the uterus be shoved up out of the way behind the symphysis, and not drawn down into the vagina completely blocking the view, as done in the anterior vaginal section of Mackenrodt and others.

Now having thus entered the pelvis we occupy a position beneath all the pelvic and abdominal organs. We are working at the lowest point of the peritoneal sac. At once it will be apparent to you that we are in a position to apply all operations the success of which depends upon drainage.

The surgeon feels that no matter what the amount of discharge which may be furnished, provision is made for its escape; and the possibilities of all those conservative operations which have been tried through the belly and failed, become apparent.

HYDROSALPINX.—I free these cysts of retention from all false adhesions. They are then incised along the upper border for an inch and the adherent fimbriæ are teased apart. If the tubal wall is very thick I stitch its lining to the peritoneum with fine catgut (salpingostomy). It is unnecessary to remove hydrosalpinx inasmuch as the contents of the tubes are sterile and the condition does not recur after the operation. Pregnancy has followed in a case of bilateral hydrosalpinx thus operated upon.

CHRONIC SALPINGITIS.—The various forms of occluded swollen tubes; pachysalpingitis; chronic purulent salpingitis, etc., are treated like hydrosalpinx, but after incising the tube I do not employ suture. There is strong probability that these tubes contain infectious material and I do not suture in infected areas. After opening these tubes I place in them a temporary strip of iodoform gauze which I remove when the operation is finished. Pregnancy has followed.

OVARIAN APOPLEXY OR HAEMOTOCELE.—These blood clots in the stroma of the ovary, while sometimes an inch or more in diameter, do not destroy the entire organ. I incise the cyst and peel out the thick yellowish lining membrane. After this is done the flabby edges are carefully trimmed with scissors. If the edges fall easily together and there is no prominent oozing I do not suture; but if there be gaping and small spouting arterioles, I approximate the edges with a running suture of fine chromic catgut. Pregnancy has followed.

CYSTIC OVARIES—are drawn into the vagina and the cysts punctured with a bistoury. I do not believe that cystic ovaries should ever be removed. I dislike to apply sutures to any structure upon which I attempt conservatism. Sutures strangulate the already damaged tissues, they lock in discharges and furnish a foreign material which must be absorbed. Pregnancy has followed.

Little difficulty is experienced in applying the sutures, no more than is involved in plastic work upon the uterus.

ACUTE SALPINGITIS AND PERITONITIS.—These, the first complications of serious nature due to infection of the pelvic structures, have become so frequent that they almost constitute a problem in our social life. Our shifting population, in morals obedient only to the laws; our lack of all control over veneral diseases while permitting the freest opportunity to contract them; and, I may be pardoned if I say it, the aggressiveness of minor gynaecology in unprepared hands, have, more than gross filth of the surroundings, caused the vast proportion of pelvic inflammatory lesions. When we meet with a neoplasm it is after ten women with some sort of infection have come to us.

Seeing so many cases in their very inception and knowing the results following an unchecked infection, I have attempted to meet these diseases somewhere between their first manifestation and the gross pus tube or ovary. I have begun to treat them in their acute stage.

So soon as I see that an infection has passed beyond the uterus, I enter the pelvic peritoneum. Although the effusion of lymph, closure of tubes, and adhesions serve a good purpose in that they tend to limit the infection, yet they result in the most destructive lesions, of the pelvic viscera. I at once enter the cul-de-sac and sever all adhesions. Great gentleness is necessary because it is exceedingly easy to tear these swollen livid tubes. The adherent fimbriæ are opened, the tube is temporarily packed with gauze, and a most thorough liberation of adherent organs is done. I carefully wipe the pelvis dry, but do not irrigate. By this procedure I seek to *prevent suppuration.* These infections proceed through the uterus, extending along the tubes or lymphatics. It has seemed to me that if I could cleanse the uterus and the tubes, and furnish free drainage, I could stop the process in its first stage. That I have done so in all cases of first attack I assure you. The probability of success diminishes with each attack of infection, for with each invasion the repair power becomes less and the changes permanent.

The fluid evacuated from these tubes is always muddy and frequently purulent. The quantity of fluid is variable, but that is not material. We are here dealing with acutely inflamed organs, and I imagine the procedure suggested will differ radically from those to which you are used. This line of work I consider the glory of the vaginal method. Ovaries, tubes and uterus can be removed by the abdomen with little mortality.

Conservatism may even be applied to certain chronic lesions with some degree of success, through the belly. But so essential is drainage, in the treatment of these cases of acute salpingitis and peritonitis, that the vaginal route alone can be employed with any hope of success.

The general practitioner first sees these cases and it is in his hands that the operation must find its greatest application. It is offered to him as a substitute for opium and poultices and as a preventive against the vaginal hysterectomy and abdominal salpingo-oöphorectomy. These organs of all in the body are most liberally supplied with blood. The arteries are in marked disproportion to the organs nourished, and there is a double arterial supply. To deny power of recovery and repair to such organs when cleansed and drained, is to set them apart from the application of rules which are operative in the rest of the body. Women have gonorrhœa with extension to the tubes and peritoneum. They also abort and become infected. A few go through an attack without treatment and recover, with restoration of function in all the invaded organs. All infected cases do not have pyosalpinx and ovarian abscess result. Yet upon examination we can appreciate the presence of the complications, and it would appear impossible for resolution to take place. Yet some do refuse operation and do recover with disappearance of all symptoms and local signs of adnexal disease. I believe that these few cases can be made the many if to the normal resistant action of the tissues we lend the aid of drainage. I believe that we can prevent suppuration in those inflamed organs. Since beginning this work I have not removed these acutely inflamed organs and have no cause to regret substituting the cul-de-sac operation for the opium and poultice. To refuse this operation to a woman is but to allow the infection to run riot in her pelvis and invite the mutilation which accompanies the future cœliotomy or vaginal extirpation. But, whereas this operation proves curative in first attacks, it will be no more than palliative when done after repeated infections have occurred. But even though a radical cure in these recurrent cases, is not to be expected, the infection is cut short, and marked repair takes place in the invaded organs. Pregnancy has followed this operation.

THE PALLIATIVE EVACUATIVE OPERATIONS.—I have thus far spoken of those vaginal operations which are reliably curative of the conditions for which they are done. There is another class of cases in which while subjective symptoms are relieved, there yet remains some evidence of disease. Where a pyosalpinx is situated below the cornu of the uterus, that is, where it is not drawn high up by attachments to the intestines, it can readily be reached through the posterior vaginal incision. In certain cases it is undesirable to remove a pyosalpinx. There are cases where the suppuration is due to gonorrhœa, for when this causes the pus tube, the tube of the other side is always more or less damaged. By cœliotomy the grosser lesion can be removed, but what is the fate of the tube which is left? Whenever I have performed abdominal section for a pyosalpinx due to gonorahœa, I have found the tube of the other side so diseased that were the operation made for it alone, its removal would be warranted. Yet I have left such tubes, being unwilling to take out both and suddenly precipitate the woman into an artificial menopause. What is the fate of the tube which is left? A certain number formed pyosalpinx, others remained in a state of chronic inflammation, producing painful symptoms. So far as I can learn they have never become sufficiently normal to convey an ovum to the uterus, for these cases do not bear children, although menstruating. Pray remember that I am speaking of gonorrhœa of the tubes.

My belief, simply expressed, is that when gonorrhœa passes outside the uterus bilateral salpingitis results, although the gross lesions may be far more marked upon one side than on the other. Cases have been reported which had pus tubes coexisting with pregnancy, but there is no evidence to show that these cases were gonorrhœic. It is certainly to be remarked that those women from whom a pus tube, due to gonorrhœa, has been removed from one side are sterile. The sterility of prostitutes is notorious. The question then narrows down to, (a) removal by abdominal section of one tube, leaving the other partially damaged; (b) a palliative evacuative operation through the vagina, or, (c) a vaginal ablation.

I prefer the second procedure in most cases.

I open the cul-de-sac by a crescentic incision. This is enlarged bilaterally with the fingers. A cautious and careful digital examination is made of the pelvis. Finding the pus tube, I do not attempt to free it *above*, but only below. I commonly puncture the tube with scissors and tear a broad rent into it with my fingers. As the pus escapes I wipe it away, but do not wash. The tube is packed full of iodoform gauze temporarily. The less affected tube is now sought for and will usually be found with agglutinated fimbriæ. These are teased apart and the tube cleansed with a thin filament of iodoform gauze. This is removed in a few minutes and the large pus cavity is filled with fresh gauze which hangs in the vagina. The pelvis is then lightly packed. By this operation I cleanse a suppurating focus and place the less affected tube in a condition to recover. Further than this, I relieve these women of all symptoms. The first dressings are in a week. They are removed and carefully replaced. The pus sac becomes obliterated and converted into connective tissue. I have seen no case of pregnancy after such work, but the relief from symptoms is as certain as by removal. That these women return to the men who infect them, is certain, but it is an interesting experience that those thus treated are less likely to suffer from subsequent attacks of pyosalpinx than at first. The explanation is found in the closure of the tubes by connective tissue, and gonorrhœa travels by continuity of similar tissues only. Understand me, I am discussing cases which have advanced beyond the first acute stage. When I have bilateral purulent cysts to deal with I prefer the evacuative operation in young women and the vaginal ablation in women over thirty.

This method of treating tubal suppuration must not be confounded with the old trocar puncture. This procedure necessitated passing the trocar through all tissues lying between the pus and the vagina; it provided no means for escape of the pus; if pus was not found this was no proof that it was not there; and trocar evacuation did not guard against reformation of the pus. The free incision I recommend, supplemented by the careful application of sterilized dressings, not only relieves from all symptoms, but by converting the tube into a mass of connective tissue, it actually guards against future suppuration.

Whenever pus in the pelvis is of septic origin and if unilateral, I prefer either a local evacuation or else an abdominal removal. Septic pyosalpinx and ovarian abscess are sometimes unilateral, and we may find the opposite tube and ovary perfectly normal. The reason for this is found in the manner in which these focci form, namely, by unilateral infection of the uterus usually at a placental site and unilateral pelvic lymphangitis results. The tube becomes sealed by peritonitis, is infected, and a pyosalpinx forms. These are the tubes we find with high attachments because they form when held high up by an enlarged uterus.

Where ovaries are situated within reach of the examining finger they may be treated just as are pyosalpinx.

As a general proposition, I may say that the greater the degree of suppuration the less the indication for cœliotomy. Take, for instance, an old case of bilateral suppuration with repeated recurrence of peritonitis, or a case of diffuse suppuration. The indication is for either an evacuative operation through the vagina or else a vaginal ablation. Whenever there are more pockets than one I try to enter all and pack each with gauze. But if small ones are overlooked they will break into the drainage space. This vaginal evacuation will remove the most critical case from the emergency class and place her in the class where an elective radical operation can be done. It were well if we could do this with all intra-abdominal suppurations, those of appendicial origin, for instance.

There is a class of cases which I cannot discuss here, namely, the puerperal, for my time is limited. But suffice it to say, that whenever I find a puerperal case resists intra-uterine douches I curette and open the cul-de-sac. I can point to vicious cases of general septicæmia (puerperal) with pus free in the pelvis, a beginning suppurative peritonitis, cured by this operation. And in general pelvic peritonitis short of suppuration the operation is equally effective.

I may reply to a question which is probably in the minds of all of you: Why perform the palliative operations when removal would radically cure? Certain of these cases of pelvic suppuration are in such miserable general condition that to add to their debility the tax of a radical operation would be to kill them. Therefore, evacuation of the results of the inflammation is indicated to tide them over the acute stage and grant time during which very essential treatment can be instituted to prepare them for a radical operation. This is particularly true of all cases of streptococcus infection, for lung, heart and kidney complications so often attend these cases. Again, in certain cases, notably of pyosalpinx, situated low down, the evacuation of pus and conversion of pus sacs into connective tissue bundles apparently cures them of local and subjective symptoms. I say "apparently," for the new scar tissue into which such pus sacs are converted must be permanent. Again, in very young women, women under twenty-five, it is most undesirable to check so important a function as menstruation in the formative period of life. I can not say that doing so will shorten life, but I have thought that psychic disturbances of a grave nature attend the consciousness by a woman that she is not like other women, as well as essential physical changes. If a woman has developed a sexual appetite, I do not find that this is changed by the operation of ablation; but if she has no desire for intercourse she will not develop it after operation. Furthermore, the radical operation is followed by rapid atrophy of the external genitals and vagina when done in young women and the young organs assume the characteristics of senility; they tear easily and lose their elasticity.

So much for the reasons for palliative work which very properly influence the surgeon. But when the question is laid before women fairly, whether they had rather retain their organs and have a qualified result from a palliative operation, or lose their organs and be insured immunity from future pelvic inflammatory lesions, some will unhesitatingly choose the former course. There are women who prefer to retain their special organs, suffer occasionally, but yet feel that they are women. There are other women to whom the loss of their organs is worse than death. These, I know, are sentiments—they are women's sentiments—and difficult for us to appreciate.

I believe that castration is a most excellent procedure for prostatic hypertrophy, but I have yet to learn that it is readily accepted by men. That also is due to sentiment. So, then, there is every reason to attempt to preserve the menstrual function to women with the ovaries, and the vaginal operations alone admit of this where there are bilateral pus foci.

I wish to call your attention to recent investigations made by a number of experimenters, notably Prof. Curatulo, of Rome, Italy, regarding the influence of the ovaries upon metabolism. Suffice it to say that they show that the ovaries play a far more important part in determining the tissue changes than either the tubes or uterus. They are of more value to women and conservative operations upon them should always be carried out when possible. They should never be sacrificed unless broken down in pus or the seat of neoplasm.

THE CAUSE OF FEVER AND ITS TREATMENT IN CHRONIC PULMONARY TUBERCULOSIS.

In the purely tubercular processes of the lung, fever may be present or absent, according to the stage reached. With and during the eruption of tubercle in the lung, the temperature is increased, the degree depending upon the extent of lung involved. In the circumscribed form it is quite moderate, rarely exceeding two degrees above the normal, and in our present state of knowledge we attribute the elevation to the absorption of specific toxins which are produced by the tubercle bacilli, and to the reactive, inflammatory changes in the periphery of the forming tubercle.

These reactive inflammatory changes are of the so-called productive variety, leading to the formation of new tissue, which enclose the tubercle, thereby eventually limiting the further absorption of specific toxins; at the same time an increasing toleration or perhaps a certain degree of immunity is established under which the organism for the time being does not longer react with fever.

The fever which accompanies the primary eruption of tubercle in the lung is rarely referred to its true cause, for the reason that symptoms on the part of the lung are frequently absent, or they are so slight that they attract little or no attention, and even if a slight hacking cough should be present, the absence of distinctive physical symptoms tends to allay any suspicion or fear of tubercular disease. In most cases the patient becomes accustomed to the slight fever, which may only last a few hours each day, and may occur at a time when the patient does not call at his physician's office; the more or less marked malaise is then attributed to all sorts of causes, and since with the completion of the tubercular eruptions the fever and other symptoms subside, the apparent recovery of the patient confirms whatever theory may have been adopted, and justifies the treatment that may have been employed.

The diagnosis of the actual period of eruption of tubercle is attended with uncertainties; if made at all, it will depend largely upon indirect evidence. In cases which seek medical advice for the vague symptoms present, we must take into consideration the possible predisposition of the patient, either hereditary or acquired, the fact that there is no good and sufficient reason to account for the symptoms complained of, the presence of slight fever during some part of the day or night, and the suspicion of tubercular changes in the lung may receive further confirmation in the recognition of extremely delicate, crepitant râles especially after coughing, and by deep respiration, by those who are well skilled and practiced in physical diagnosis.

Even then one may not feel like giving a positive opinion, but the subsequent development of more pronounced evidence, in the occurrence of slightly diminished percussion resonance in one apex, with prolonged expiration, and later a somewhat harsh, rough or interrupted character of the inspiration and of prolonged expiration, after the patient considers himself well, should remove previous doubt.

Many physicians seem still unwilling to make the diagnosis with this evidence, and to such I would recommend the tuberculin test, which in this stage, if properly applied, is without the slightest danger to the patient, while it confirms the diagnosis with unerring certainty if the characteristic reaction occurs.

Inflammation of the bronchial mucous membrane occurring with an ordinary attack of bronchitis, due to cold and exposure, or an attack of grippe, will more readily extend to and involve these deeper lung structures than would be the case in the normal lung, and the area of a latent deposit of tubercle is thus more liable to lobular pneumonia and to the attending interstitial inflammation and catarrhal exudates.

Like results follow in connection with measles, whooping cough and pleurisies from exposure, and also in the course of other acute or chronic diseases, as for instance in typhoid fever, syphilis and diabetes mellitus, which, by diminishing the individual's general resisting power, favor the colonization, multiplication and extension of pathogenic germs upon the pulmonary mucous membranes, and particularly within such lung portions as are already the seat of latent disease.

A return or increase of the cough and of all other symptoms follows their intermission, or remission, the temperature reaches higher maxima, and chills or chilly sensations may occur with its onset and night sweats may coincide with its rapid fall.

This fever is due to the absorption of softened caseous material and continues until the removal of the cause, either by absorption alone or by eventual discharge into a bronchus. Small caseous foci may be absorbed without outward discharge, but until outward discharge occurs, the sputum does not contain tubercle bacilli or elastic tissue.

If only one tubercular nodule has broken down, or if all softened foci have already coalesced before being discharged into a bronchus, then the fever subsides quickly, the loose cough as well as the expectoration soon diminish, and a rapid improvement takes place in all respects.

It is otherwise when a number of foci are softening successively. In such cases the active period may be prolonged for several months or longer, and while, as a rule, a gradual amelioration also takes place, it is frequently interrupted by local inflammatory conditions and by retention of discharges, but in either case the apparent recovery or improvement is not lasting.

During the period preceding the evacuation of tuberculous material into a bronchus, the sputum, if present, is due to symptomatic bronchitis, and often contains pathogenic cocci; in many cases, however, the catarrhal symptoms of the existing inflammation disappear entirely, and several weeks, or longer periods, elapse before the symptoms of destructive changes attract attention.

The following case may serve to illustrate this and other points made in this paper:

Young man, aged 23, was apparently well until from severe exposure he contracted an acute bronchitis; temperature was elevated for three days, varying between 100 and 101.5 F., but it was normal after the fourth day. The cough, however, continued and expectoration appeared with the decline of the fever. An examination of the lungs having revealed relative dullness in the right upper lobe, with prolonged bronchial expiration above and below the clavicle, the sputum was examined daily for several weeks, without finding tubercle bacilli. A few staphylococci only were present in the first and second specimens, but after causing the patient to thoroughly rinse his mouth before collecting the sputum in a sterile vial, nothing but non-pathogenic cocci and a few mouth bacilli were occasionally found thereafter.

After about three weeks the cough and expectoration stopped entirely, but on examination of the dull area catarrhal râles were now present, which were easily brought out on deep inspiration and on coughing.

A week later the râles had increased in number and were audible with ordinary respiration, they were now confined to a small spot below the inner end of the right clavicle; a hacking cough and fever had returned, subsequently small quantities of mucous were occasionally expectorated, which contained no pathogenic micro-organisms.

The temperature now reached 101 deg. F. and over nearly every day, chilly sensations and several times well-marked chills preceded the onset of fever, and the patient had three or four rather profuse night sweats.

This condition lasted nearly three weeks more, when the expectoration became bloody and next muco-purulent, but still no pathogenic germs were found.

Several days later, caseous particles and a few tubercle bacilli appeared in the sputum, and similar results were obtained in a number of specimens; the fever gradually subsided to normal by the end of the fourth week. The cough and sputum grew less almost daily, and in the dull spot where the râles had been observed, cavernous respiration was now unmistakable.

The last specimen of sputum obtainable still contained a few tubercle bacilli, but streptococci or staphylococci were never present. This case was under my care at the time when I was trying nuclein solutions, and the first injection of 1 *c. c.* given several weeks after the temperature had become normal caused chill, followed by a temperature of 102 deg. F. After waiting two days, during which the temperature was again normal, another cubic centimeter was injected with a like result; further trial with smaller doses of the remedy was thereafter declined by the patient.

With my recent experience and views, I would only designate that fever as due to mixed infection which accompanies the acute inflammatory complications in the course of the disease, and would propose to recognize—

1. The specific fever which occurs uncomplicated only with the new formation of tubercle.

2. The absorption fever due to liquefied organic substances derived from disintegrated caseous material and pus, which may be associated or not with the specific or inflammatory fever.

3. The inflammatory fever produced by other pathogenic bacteria than the tubercle bacillus and which may occur as a complication with either of the previous forms.

As the disease advances to the last stages the first and second forms are frequently present in combination.

The specific form of fever when the eruption of tubercle is circumscribed and confined to only one upper lobe is usually quite moderate, rarely exceeding 100 deg. F. It is increased by exercise and moderated by rest. It usually occurs in the afternoon or evening; its rise and decline are gradual without chills or sweats.

Symptomatic treatment for this fever is rarely necessary, but the primary indication, *i. e.*, the removal of the cause, can be complied with by the use of specific products of the tubercle bacillus, such as watery extract of tubercle bacilli, purified tuberculin, or antiphthisin, and to those who are able to recognize the slighter physical evidences in the chest indicating the presence of forming or of recently formed tubercle, I can give unqualified assurance that these physical phenomena will be observed to disappear, together with the fever and other symptoms under the proper use of these remedies.

In its treatment and management I have never been able to satisfy myself of any real benefit derived from the internal or local use by inhalation of antiseptics, such as creasote, carbolic acid and essential oils. Neither has the use of anti-streptococci serum, even when the expectoration contained streptococci, given the slightest relief.

Hypodermic injections of creasote, guaiacol or carbolic acid in sufficient doses, do reduce the fever and act precisely like coal tar derivatives, causing a more or less rapid fall in several hours, which is often followed by profuse perspiration; this is, as a rule, followed by an equally rapid rise, sometimes with a chill, the same as we observe it after the use of acetanilid, antipyrin, or other members of this class, and the rubbing of guaiacol into the skin has the same effect.

Their depressing effect on the circulation, the discomfort attending the sweating, and the frequent return after only a short intermission of an even higher temperature, perhaps with a chill, would hardly justify their use in preference to other antipyretics, and none of them with the exception of quinin can be recommended.

The first indication, however, is to keep the patient at rest, and according to the time, place, season and weather, this may be in a well ventilated room, in bed, or loosely dressed out of doors upon a cot properly protected against wind and weather.

Cold applications, either by the use of wet compresses or of the ice bag, should be reserved for patients presenting a hot skin and a sthenic condition. Many tubercular patients have a poor circulation to begin with, the skin is often cool while the fever is high; in such the prolonged application of cold is likely to induce chill and internal congestions, and adds greatly to the patient's discomfort.

Any considerable degree of exercise, even in the afrebile period of the day, increases the fever, both in degree and duration; the exercise must, therefore, be carefully supervised and regulated, for which the pulse is the best guide.

In most cases the absorption fever begins quite regularly at about the same hour as on the previous day; this time must be anticipated by having the patient at perfect rest, physically as well as mentally, at least one hour before the onset of fever on the previous day; the patient may lie either upon a cot, sofa or reclining chair out of doors, when the weather is favorable; undressed and in bed otherwise.

When chill initiates the fever, the patient *must* go to bed and hot water bottles should be placed to his feet, direct drafts of air must be guarded against, and all cold drinks or cold external applications must be strictly avoided. Hot stimulating drinks may be given.

With the evacuation of the liquefied tubercle into a bronchus the fever declines, and if only one focus of softening has been present, it falls to, or nearly to, the normal in the course of a few days.

A careful watch of the adjoining lung portion, and of the opposite lung, will soon decide whether a new eruption, by dissemination of tubercle bacilli from the destructive lesion, is in progress, and subsequent renewed rises of temperature of from 1 to 2 deg. without chill will soon make their appearance, if dissemination has occurred.

Such extension I have witnessed so uniformly that I feel like asserting that it is the rule. It takes place within about two months from the time when the first evidence of softening and liquefaction has been observed. I have missed it with almost equal uniformity in all those cases in which I have administered purified tuberculin, and more recently the watery extract of tubercle bacilli, during the period of softening, or before, and during this time. In cases so treated extension did not occur, and in many instances I had reason to believe that the destructive changes were thereby limited to the area where they became first evident.

The more direct evidence for the favorable action of specific remedies in the manner indicated, I believe to have observed in such cases which were treated when primary latent tubercular disease in one lung alone was present, and also such in which secondary extension to the opposite lung had taken place with well-developed physical symptoms. It has been an uniform observation that those physical symptoms diminished, in recent eruptions they disappeared entirely, while in older deposits the changes were such that the area giving abnormal physical signs was often greatly reduced, or the entire lung portion showed unmistakable improvement, both on percussion and auscultation.

Strikingly favorable results can, however, then be only expected when the patient's general condition is not yet bordering on exhaustion, and when the local destructive changes are not so extensive that the exhaustion must necessarily occur from the long-continued fever due to absorption of disintegrating tissue, conditions under which the organism is no longer competent to limit the disease and cause the necessary repair.

In the last stages the fever is frequently due to a combination of all the causes, and is beyond our efforts for its arrestment; general hygienic and dietetic measures, rest and climatic treatment may still modify it; quinin has still a temporary influence, and with the progressive emaciation and exhaustion the fever may even subside or be but slight for several months before death. I have seen many such instances in which the appetite again returned so that the patient took large quantities of food, but the loss of weight continued. At these periods complications arise frequently on the part of the larynx, and bowels, or both; often the temperature rises again toward the end, and pursues an irregular course until death.

In these last stages all remedies prove unavailing, exerting no influence upon the progress of the case, nor preventing the later eruption of miliary tubercle in distant parts which we often note to occur several weeks before death.

The inflammatory fever is always a complication, and, having no direct means for its control, prevention is of the greatest importance.

It is the expression of an acute inflammatory process in the lung produced by other pathogenic germs, and without such an occurrence most, if not all, the latent, circumscribed tubercular deposits would continue in this state.

The greatest benefit from climatic treatment obtainable is in the period of latency, by removal to localities where the liability to the contraction of colds, grippe and catarrhal affections of the air passages in general is greatly lessened.

Without considering the details of the general treatment of these inflammatory affections of the air passages during which the fever is continuous, absolute rest in bed is essential for the latter, and the greatest care should be bestowed upon a common bronchitis the moment we know of, or suspect, the presence of a tubercular deposit.

Too often these affections are allowed to assume more formidable proportions before medical advice is called in, and it may be then too late to avert destructive changes if a latent deposit has become involved.

Thus the early diagnosis is delayed—the true state of affairs is only revealed when the affection is unusually prolonged, and perhaps not until tubercular bacilli appear in the expectoration, after which a new eruption of tubercle is almost sure to occur.

After the completion of the resulting excavation, and after the arrival of the period of latency of the new deposits, like repetitions are apt to occur; the more frequently as the climatic conditions and the mode of life of the patients are unfavorable.

In whatever stage these acute inflammatory complications may occur the fever is only subject to symptomatic treatment.

[Extract from paper by Dr. Karl von Ruck in New Orleans *Med. & Surg. Journal*].

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THE TREATMENT OF GASTRIC ULCER BY LARGE DOSES OF BISMUTH.—Gastric ulcer has been treated by very many methods, some of which radically differ from one another, and the use of bismuth in this affection is by no means recent. Within the last few years, however, it has been suggested by Fleiner that good results follow the use of massive doses of this substance. This clinician employed as much as 300 to 450 grains of bismuth in suspension in water, poured into the stomach by means of a stomach-tube after previous lavage, and in his paper he referred to the experiments of Mattheys upon the action of bismuth in hastening the cure of experimentally-produced ulcers in the stomachs of dogs.

At a recent meeting of the Manchester Therapeutical Society, Dreschfeld read a paper upon this subject in which he protested against the use of the stomach-tube as a method of administering these large doses of bismuth, on the ground that it is not wise to pass a tube into an ulcerated stomach. He stated that he had employed from thirty to fifty grains of bismuth subnitrate three times a day, suspended in water, and swallowed without the aid of a tube. Under these circumstances he found the condition rapidly relieved, vomiting ceased and digestion improved, although he allowed light nitrogenous food, such as fish or fowl, to be given. Ultimately the ulcer healed. These large doses of bismuth have never, in his experience, produced constipation, but rather a slight tendency to pain and diarrhœa. Dreschfeld has also found this method useful in both acute and chronic cases, and also in acid dyspepsia with neurasthenic condition.—*Therapeutic Gazette.*

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EDITED BY

St. J. B. GRAHAM, M. D. W. E. FITCH, M. D.

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FLIES.

In former issues of this journal attention has been directed to flies as conveyors of the contagion of typhoid fever at army camps. One case of typhoid fever in camp, home, or hospital, would furnish a focus for the spread of the disease by means of flies as carriers of the typhoid bacillus to susceptible persons and an epidemic thus be started and kept going. Flies swarm upon the fecal evacuations and when the food is placed before the individual ready to be eaten they also congregate upon that, with remnants of feces and countless micro-organisms clinging to their legs and bodies, which they industriously streak over the food. What would be thought of a man who would mix with his hands these fecal discharges and without washing handle things to be eaten; the infection here would be quite plain. Yet the condition is the same, only in smaller doses with the fly; from a bacteriological standpoint there is really no difference, for the fly, not with his little eye, but his little foot can carry at any time enough typhoid bacilli to infect a whole regiment of susceptibles. Veritably, the fly puts his foot in it. Just here is a lesson to be learned and one that might save at some future time much sickness and suffering. "Go to the (*cat*), thou sluggard; consider her ways and be wise," for they have more natural born sense in this direction than whole corps of medical officers. How carefully and daintily she covers her feces with fresh dirt after her little act is finished. Herein lies the lesson and safety from this source of infection. By covering with fresh dirt the feces, the bacteria of nitrification or oxidation are inoculated upon it, split it up industriously into simpler products and all odor and danger is obviated. Why was not this done?

Dr. Coppen-Jones of Switzerland some time ago, by carefully conducted bacteriological experiments, proved that flies may carry the tubercle bacillus in their bodies and on their feet. Besides being our friends in doing scavenging for us that we are too ignorant or too lazy to do for ourselves, flies may be placed almost at the head of the list of our insect enemies, admitting the good effected by certain species in clearing away animal and vegetable debris and in the fertilization of plants. Many direct injuries can be attributed to them, such as destruction of cereal crops by the Hessian fly, and grass land by the larvæ of the "daddy long legs" (Tipula Oleracea), of oranges by ceratitis. Domestic animals suffer from the bot and gad-flies and other species. Explorations in tropical climes have been abandoned on account of the terrible African zimb or Tsetse fly.

It was no uncommon thing during the civil war to find wounds badly infected with the maggots of flies; this is even yet seen at times in neglected wounds. Cases have been reported recently of larvæ of certain species being found in the nose in œzena, in the external auditory canal and antrum, where they cause considerable annoyance and are difficult to dislodge.

Portchinsky, a Russian naturalist, rendered a very precise account of much disease and death among men and other animals at Mohilew, caused by a species of muscidœ. Instances of death from the transference of putrid animal matter and probably pathogenic germs has been attributed to the Lucilia hominivora in New Caledonia. The spread of Egyptian opthalmia has been attributed to the sand-fly, simulium. In West Australia the expedition of Giles suffered severely from these pests. At certain seasons of the year sand-flies make life miserable for man and animals of all kinds along our own coast. Several cases of septicemia have been reported from New Jersey and other places, attributed to the bites of mosquitoes that had lately been upon putrid animal bodies. This, however, we do not know to have been demonstrated.

More thorough sanitation, hygiene and scavenging will aid in the abatement of these dangers and nuisances.

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THE PROBE.

This diabolical instrument has, we hope, about done its worst, and we venture the assertion that the probe has been the means of killing or infecting more wounded individuals than it ever aided in saving. But few surgeons outside of a well-appointed hospital in *emergency* work ever get and keep their instruments, hands and field of work even approximating sterility, and of all wounds the penetrating ones with small cavity of entrance are the easiest to infect and the most difficult to disinfect. The difficulty and danger lies in insufficient drainage, locked and barred toxins that cannot easily find their way out. What is the use of the probe in bullet wounds? To find the ball? or to see how far it has penetrated? What is the advantage in finding the ball? An incision should be made te take it out, then why not make an incision to find it, if one insists on doing something. It is much safer, and the eye (no matter how penetrating) will carry no pathogenic micro-organisms and the wound of incision will afford ample and free drainage to anything the penetrating body may have carried in with it and render easy the application of antiseptics, if needed. If the patient's condition warrants, it is frequently the best surgery to simply render the external opening aseptic, put on a sterile dressing and let the patient alone; the ball will become encysted and if it does not lie against a nerve trunk it will do no harm. This does not refer to visceral wounds always, for here experience and surgical acumen is very valuable and will point to what is best to be done. It is better surgery to enlarge the wound of entrance here if necessary than to use a probe. The Roentgen rays would be very valuable to locate the offending body, but would not show the damage it had done. Here, again, the eye can be relied upon if sufficient care is taken.

The probe is an instrument second only to the missile in its capabilities for harm and should be in these enlightened days thoroughly sterilized and so carefully put away that it cannot be found again.

DECOMPOSITION OF CHLOROFORM VAPOR BY GAS FLAME AND OPEN LIGHTS.

That the vapor of chloroform is decomposed into injurious and temporarily embarrassing gaseous compounds when it comes in contact with a coal gas or naked flame there is no doubt. Instances of this kind have been often reported, and we have been present ourselves when this has happened. Most writers attribute the disagreeable and penetrating odor present during the decomposition to free chlorine, which, they say, is liberated. Bosshard says it is due to tetra chloride of carbon, free chlorine and hydrochloric acid. Kunkel believes hydrochloric acid to be the chief cause of the discomfort; he found chlorine only in small quantities, which he considers due to the further splitting up of the hydrochloric acid. Stobwasser caused rabbits and guinea pigs to inhale the decomposed gases, producing œdema of the lungs and hemorrhages into the substance of the lungs. Zwiefel lost a patient from catarrhal pneumonia, which he attributed to this cause.

While we have no direct experiments to prove our assertion, we believe that formaldehyde is one of the active gaseous agents a product of this decomposition; if so, ammonia water should be used to correct the trouble. Ventilation, a steam spray of lime water, borax or soda have been recommended. Where the incandescent electric light can be used all trouble of course is obviated.

EDITOR'S TABLE.

We have just received Vol. I, No. 4, of *The Medical and Surgical Monitor*, under the editorial management of Samuel E. Earp, M. D., with a corps of department editors. It is a monthly publication. The September number contains 32 pages text. We extend the journal our best wishes for a long, useful and successful career.

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Last month in our editorial column we reprinted in full an editorial by Dr. J. D. Emmett, Editor of the American Gynæcological and Obstetrical Journal. By mistake credit was given the American Journal of Obstetrics and Gynæcology, and there is no such Journal. The mistake was in transposition of the words forming the name of the Journal. While we deeply regret the mistake, it at least had Doctor Emmett's name correct, and no one could possibly confound Doctor Emmett with the editor of any other journal, or suppose that he would write editorials, no matter what we might say, for other journals whose policy is not on the high plane he advocates and so successfully carries out.

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When giving mercury for a protracted period, attend well to the condition of the patient's mouth. Diseased teeth and spongy gums invite mercurial stomatitis. Frequent cleansing with a soft brush and an alkaline antiseptic should always be directed.—*Ex.*

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A QUININE FACTORY IN JAVA.—The main country producing cinchona bark is Java. It now has a manufactory from which 58,300 ounces of sulphate of quinine has been shipped to the United States since January, 1898, the value being $13,992.00.

The owners of the factory receive a commission of about one dollar per thousand pounds, and the producers of the bark get the bulk of the money brought by the sale of the quinine in market.

In 1897 North America consumed 1,000,000 ounces of quinine, and the total amount estimated for all countries was 13,000 pounds. It would seem that this presents an opportunity for American capitalists to reap a harvest.—*Ex.*

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Our surgical dressings are usually too small. A good thick padding of aseptic absorbent cotton will extend continuous capillary invitation to the wounded secretions and be an effective barrier against bacterial invasion. Kill the coming and starve the parting guest.—*Ex.*

The following is the preliminary program for the meeting of the Mississippi Valley Medical Association, at Nashville, October 11–14, 1898:

B. Sherwood-Dunn, Boston, Mass., Why I have Abandoned the General Practice of Vaginal Hysterectomy; J. A. Stucky, Lexington, Ky., Tonsilitis or Quinsy, Causes and Treatment; H. W. Whitaker, Columbus, O., Pichi; A. Ravogli, Cincinnati, O., A Few Practical Points in the Treatment of Posterior Urethritis; Frank Parsons Norbury, Jacksonville, Ill., The Neuro Hypothesis of Rheumatoid Arthritis; A. M. Osness, Dayton, O., Diphtheria and its Logical Treatment; F. E. Kelly, LaMoille, Ill, Varicocele; F. F. Bryan, Georgetown, Ky., A Plea for Pelvic Peritonitis and Cellulitis; John M. Batten, Pittsburg, Pa., Syphilis; Geo. W. Johnson, Dunning, Ill., Gonangiectomy and Orchidectomy for Hypertrophied Prostate in Old Men; Geo. F. Keiper, Lafayette, Ind., Wounds of the Lachrymal Apparatus, Report of Operation for Restoration of Caniliculi Obliterated by Traumatism; Shelby C. Carson, Greensboro, Ala., A Consideration of the Limit to Operative Gynecology; W. H. Humiston, Cleveland, O., The Relations of the Gynecologist and Neurologist; W. Gaston McFadden, Shelbyville, Ind., Intermingling and Changing of Type in Diseases; William F. Barclay, Pittsburg, Pa., Mercury and its Action; J. Rilus Eastman, Indianapolis, Ind., The Diagnosis of Gonorrhea in Women; S. E. Milliken, Dallas, Tex., Sub-Pariosteal Removal of Caries from the Pelvic Basin, with Report of Cases; Thos. Chas. Martin, Cleveland, O., Complete Inspection of the Rectum by Means of Newer Mechanical Appliances; Geo. D. Kahlo, Indianapolis, Ind., Hydrotherapy in Stomach Diseases; Alex. C. Wiener, Chicago, Ill., Surgical Treatment of Infantile Paralysis; James M. M. Parrott, Kingston, N. C., Supra Public Cystotomy vs. Perineal Section; R. C. Pratt, McKenzie, Tenn., Report of Cases in Obstetrics, with Complications; John L. Jelks, Memphis, Tenn., The Relationship between the Genito-Urinary Tract and Rectum, with Special Reference to the Female; T. Virgil Hubbard, Atlanta, Ga., How Should We Treat Typhoid Fever? W. W. Taylor, Memphis, Tenn.; A Clinical Contribution to Ectopic Gestation; M. Goltman, Memphis, Tenn., Interesting Surgical Cases; I. N. Love, St. Louis, Mo., The Bicycle from the Medical Standpoint; Jos. Price, Philadelphia, Pa., Surgical Treatment of Pus in the Pelvis; Andrew Timberman, Columbus, O., Operations on the Mastoid, When and How Performed; R. A. Bate, Louisville, Ky., Arthritic Diathesis; Chas. W. Aitken, Flemingsburg, Ky., Diagnostic and Therapeutic Uses of Tuberculin; G. W. Halley, Kansas City, Mo., Some Pathological Conditions of the Ovaries and Adnexa Causing Pain.

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The Tenth Annual Meeting of the Tri-State Medical Society of Alabama, Georgia and Tennessee, will be held in Seal's Hall, 2107

1st Ave., Birmingham, Ala., Tuesday, Wednesday and Thursday, October 25th, 26th and 27th, 1898.

Partial list of papers for the Tri-State Medical Society of Alabama, Georgia and Tennessee:

President's Address, J. A. Goggans, Alexander City, Ala.; Early Diagnosis of Cancer of the Uterus, Thos. S. Cullen, Baltimore, Md.; Acute Anterior Poliomelitis, E. D. Bondurant, Mobile, Ala.; A Case of Complete Obstruction of the Common Bile Duct by Floating Gall Stone, W. H. Hudson, LaFayette, Ala.; A Simple Operation for Hemorrhoids Without Injections, Ligature, Clamp, Cautery or Crushing, R. R. Kime, Atlanta, Ga.; Total Amputation of the Penis so that Patient Can Urinate Normally, H. M. Hunter, Union Springs, Ala.; Impotence, W. W. Mangum, Georgiana, Ala.; Extirpation of the Pancreas, H. Berlin, Chattanooga, Tenn.; Two Cases of Surgery, S. W. Purifoy, Lowndesboro, Ala.; Fracture of the Spine, Presentation of Two Cases, B. G. Copeland, Birmingham, Ala.; The Treatment of Intestinal Obstruction and Constipation by Electric Injections, R. P. Johnson, Oak Park, Ill.; Ectopic Gestation, W. E. B. Davis, Birmingham; Ala.; Modern Treatment of Corneal Opacities with Report of Cases, M. L. Heffelfinger, Huntsville, Ala.; Keratitis, A. A. Greene, Anniston, Ala.; Purulent Ophthalmia, Report on New Method of Treatment, Frank Trester Smith, Chattanooga, Tenn.; Fevers of Alabama, Charles McAlpine Watson, Florence, Ala.; Some Fevers of St. Clair County, Ala., Eugene P. Cason, Ragland, Ala.; Continued Malarial Fever in S. E. Ala., Wm. R. Belcher, Daleville, Ala.; Typhoid Fever, E. Eugene Mitchell, Oneonto, Ala.; Typhoid Fever, E. A. Mathews, Clanton, Ala.; Typhoid Fever, J. D. Gibson, Birmingham, Ala.; Typhoid Fever, Report of Cases, C. L. Guice, Harris, Ala.; Some Suggestions in the Treatment of Typhoid Fever, J. C. LeGrand, Birmingham, Ala.; Diphtheria, H. L. Appleton, Cedar Bluff, Ala; Chorea, S. W. Fain, Chattanooga, Tenn.; Conservative Gynæcology per Rational Medication, R. H. Hayes, Union Springs, Ala.; Suggestions in the Healing Art. E. T. Camp, Gadsden, Ala.

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Subscribers, advertisers, exchanges and collaborators will please note that the office of the GEORGIA JOURNAL OF MEDICINE AND SURGERY has been moved to 402 Drayton street, and bear the change in mind when addressing us.

BOOK REVIEWS.

History of Prostitution, its Extent, Causes and Effects Throughout the World. By William W. Sanger, M. D., Resident Physician Blackwell's Island, New York City; Member of the American Association for the Advancement of Science; Late one of the Physicians to the Marine Hospital Quarantine, New York, etc. Cloth binding. 700 pages.

"The History of Prostitution." The subject may be termed a delicate one, nevertheless it is essentially a practical one, and as such must command attention of the law maker, the physician and the humanitarian. The high inspiration of the author is conceived for the noble purpose of benefiting his fellow man, and the reader of this volume cannot doubt that it was written solely for this purpose. It should demand the respect of all classes who wish information on this subject.

This is a volume of 37 chapters, being a compilation of facts and statistics on the history of prostitution from the eighteenth century before Christ to the present decade, giving the social condition of Jewish harlots. The author traces this subject through all ages and all countries—civilized, barbarous and semi-barbarous—and gives an insight into the laws governing prostitution in all the principal countries of the world. This vice has been co-existant with the human race, since the day Tamer "put her widow's garments off from her" and dressed herself in a bewitching manner to tempt Judah, who for his sexual gratification left her "his signet, his bracelets and his staff." Prostitution is as old as the world, and from past statistics it is in the ascendancy. The question is, where will it end ?

This large volume is full of instructive data, worthy your careful reading if you are interested in the subject.

The Office Treatment of Hemorrhoids, Fistula, etc., Without Operation. Together with Remarks on the Relation of Diseases of the Rectum to Other Diseases in Both Sexes, Especially in Women, and the Abuse of the Operation of Colostomy. By Charles B. Kelsey, A. M., M. D., New York. Published by E. R. Pelton, No. 19 East Sixteenth St., New York City. The subjects treated comprise three Lectures delivered by the author to his class. Price, 75 cents. Mailed to any physician on receipt of price.

The author gives a practical, up-to-date, common-sense view of the subject matter of this little book which make it a valuable acquisition to the library, not only of the surgeon but to any intelligent practitioner. He convinces you that the usual surgical operation for piles is not always necessary, but it can be done by the competent physician or surgeon without knife or cautery. In the second lecture he points out the complications likely to exist in cases of piles in the female, such as hypertrophy of the uterus, prolapse of the ovary, and the futility of attempting to cure piles without first relieving any existing ovarian or uterine trouble. In the third lecture he advises colostomy as the best operation for radicul cure of stricture of the rectum from ulceration. He emphasizes the danger of the operation in unskilled hands. All who are interested in this class of work will find this little volume worthy of their careful attention.

Religion and Lust. By James Weir, Jr., M. D., Owensboro, Ky.

This book takes its name from an essay contained in its pages, yet there are others on social and general subjects.

In the first chapters the author endeavors to show that ecclesiastical forms, religious and ceremonial, are very closely allied and had their origin from the ancient worship of the god Priepus, under his symbol the Phallus.

The balance of the little book is interesting compilations of facts culled from various sources, such as prostitution in middle ages, Moll's and Kraft Ebing's works on sexual perversion, writers in the archives d'antropologic criminelle, and the like. The French and Italians have worked over the field of sociology and criminal anthropology so thoroughly that there remains very little to be said that is new or true. Dr. Weir is well informed on these topics, and the English reader, if he has similar taste, will find much to interest him in this volume.

A Text-Book Upon the Pathogenic Bacteria for Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, etc. Octavo, pp. 497. Price, $2.50 net. With 134 illustrations. Second edition, revised and enlarged. Philadelphia: W. B. Saunders, 1898.

In this book the author has brought the subject up to date and presents it in a terse, graphic and interesting style. We notice on page 28, by a missprint, Hanson is mentioned as the discoverer of the bacillus lepræ; it should be Hansen. We regret to see also that on page 29 he gives all the credit for blood serum therapy to Behring. True, he did write his work, "Die Blut Serum-Therapie," about this time, but credit should also be given for the work of Pasteur, Roux, Yersin, Nuttall, VonFoder, Buchner, Nissen, Ogata, Jasuhara, and other contemporaries in this field, quite as valuable as his own, and led him up to his work.

The superb illustrations and excellent text makes this one of the most valuable books in our language on this subject. Physicians and surgeons in order to be up to date should study carefully this work.

Cataphoresis, or Electric Medicamental Duffusion as Applied in Medicine, Surgery and Dentistry. By William James Morton, M. D. Published by the American Technical Book Company, 45

Vesey street, New York City. 1898. Price, in one large 8vo., illustrated, half morocco leather, gilt top, $5.00.

This book is an intensely interesting and scientific one, dealing as it does with a subject yet quite in its infancy and with a vast field of usefulness. Dentists have been first in the field to demonstrate the utility of cataphoresis. The author's suggestions open a vast field of work for physicians and surgeons. The book is thoroughly illustrated and the text is clear and complete.

Medical and Surgical Register of the United States and Canada Comprising a list of physicians and surgeons, arranged by States and provinces, giving post-office addresses, dates and places of graduation, and a vast amount of information regarding physicians, medical schools and medical matters generally. 1898 R. L. Polk & Co., publishers, Detroit, New York and Chicago.

This fifth revised edition contains the names of 125,000 physicians in the United States and 5,000 in the provinces. It is indispensable to insurance companies and to any establishment in which the names of physicians and their addresses are desired.

Mr. Saunders announces that "An American Text-Book of the Diseases of Children," and "An American Text-Book of Gynæcology" are ready.

The fourth revised edition of "Vierordt's Medical Diagnosis," "Griffith's Care of the Baby," and Butler's "Materia Medica and Therapeutics," all of which will be ready in a few days. Stengel's "Text-Book on Pathology" will be out about October 1st, and about the 15th October a "Text-Book on Obstetrics" by Barton Cook Hirst, Professor of Obstetrics at the University of Pennsylvania. Mr. Saunders expects these two works—Stengell's Pathology and Hirst's Obstetrics—to be leading text-books. "The American Pocket Medical Dictionary" will be ready before the 1st ot October; it will contain a total of about 25,000 words, bound in limp leather. January 1st an "American Text-Book of Diseases of the Eye, Ear, Nose and Throat," edited by deSchweinitz & Randal, also Church & Patterson's "Mental and Nervous Diseases." Both of these works will be well illustrated.

The reading physician may expect to find something useful, valuable, attractive and interesting in the forthcoming works of Mr. Saunders'.

Mr. Saunders also announces that arrangements have been completed for the publication of an English edition of the world-famous "Lehmann Medicinische Handatlanten." For scientific accuracy, pictorial beauty, compactness and cheapness these books surpass any similar volumes ever published. They contain reproductions of the work of the most skillful artists, and their faithful portrayal of the subjects is assured by the eminent physicians and surgeons under whose direct supervision the plates were prepared.

Each volume contains from 50 to 100 colored plates, besides numerous illustrations in the text. Every picture is designed to be an accurate and lifelike representation of the part or condition as it exists and is seen by the eye. The colored plates have been executed by the most skillful German lithographers, in some cases more than twenty impressions being required to obtain the desired result and produce the exact effect of delicate shades and tints. Each plate is accompanied by a full and appropriate description, which is printed, for convenience, opposite the plate. The text of the volume consists of a condensed but adequate outline of the subject to which the book is devoted.

One of the chief and most valuable features of these atlases is that they offer a ready and satisfactory substitute for clinical observation. Such observation, of course, is available only to the residents in large medical centers; even then the requisite variety is seen only after long years of routine hospital work. To those unable to attend important clinics these books will be absolutely indispensable, as presenting in a complete and convenient form the most accurate reproductions of clinical work, interpreted by the most competent of clinical teachers.

While appreciating the value of such colored plates, the profession has heretofore been practically debarred from purchasing similar works because of their extremely high price, made necessary by the limited sale and the enormous expense of production. Now, however, by reason of their projected universal translation and reproduction, affording international distribution, the publishers have been enabled to secure for these atlases the best artistic and professional talent, to produce them in the most elegant style, and yet to offer them at a price heretofore unapproached in cheapness. Their very low price will place them within the reach of even the novice in practice.

PROGRESS
—OF—
MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF
W. Z. HOLLIDAY, M. D.,
INSTRUCTOR IN MATERIA MEDICA, MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.
RALSTON LATTIMORE, M. D.,
SAVANNAH, GA.

The Cure of Writer's Cramp.—Monell (*Med. Record*, July 23, 1898,) makes some pertinent remarks about the so-called neuroses, "writer's" or "telegrapher's cramp." These troubles are not really neuroses, but are the result of malnutrition. After exercise a muscle repairs its wasted fibers during a period of rest. When the use has been so violent or so long continued that this repair cannot take place there is a permanent impairment of the muscle. It cannot be restored to its normal condition by rest. Were this possible almost all of the severe cases of telegrapher's cramp would be unknown, for all of these patients give a history of periods of rest in the attempt to regain lost power. The fact that the cramp occurs is only another way of saying that the muscles have lost the power of repair through rest. Hence it is worse than useless to tell these patients to rest.

Massage is successful in a certain number of cases in restoring the patient's muscles to their previous condition, but it is at best a clumsy way of accomplishing this end, and in the severer cases it fails of its purpose. The nutrition can, however, be restored by the persistent use of galvanic and static electricity. The plan of treatment advocated is to give the muscles first a gentle warming-up application to quicken the circulation, as the preliminary canter warms up a race horse before he enters the race. The arm is next subjected to general nutrition muscular contractions, regulated in energy and number by the tolerance of the tissues. Finally the arm is given a refreshing, restful, nutritional application, which leaves it at the close of treatment invigorated, buoyant and elastic. The total treatment requires about ten minutes, and every moment and every detail of each application aims at improving the nutrition of muscle-fibers. In all cases, even the most severe, such treatment will give in a week's time a feeling of comfort, and in the lighter cases there will be in two weeks a complete cure, so that the patient may return to his work. In severer cases treatment must be longer continued, but no case is so severe or so long standing that it may not be fully cured in from forty to sixty treatments. General treatment of the health is naturally attended to, and in every case the local improvement will continue long after the treatment has been suspended. In the more severe cases it is desirable that the patients come back every year for a fortnight's treatment. The value of this treatment in improving the nutrition of the muscles is also shown by the fact that there is no operator of long experience, no matter how fine he may think his arm, but can be improved twenty-five per cent. in speed and ease of operating by a dozen treatments. For the details of this method of treatment the reader is referred to the author's "Manual of the Use of Static Electricity in X-ray and Therapeutic Uses."—*Medical News.*

VELANDER'S NEW METHOD OF ADMINISTERING UNGUENTUM HYDRARGYRI.—Hogner tells us in the *Boston Medical and Surgical Journal* of March 1, 1898, that he desires to present a very interesting case —a pillow-case—which he thinks will be in the future a valuable instrumental means of administering unguentum hydrargyri.

Dr. Edv. Velander, professor in venereal diseases in Stockholm, Sweden, and head doctor at the great St. Göran's Hospital for venereal diseases in that city, has recently devised this pillow-case for the above named purpose. The writer's own experience in its use is limited to two patients. However, he has found it so practical, effective, convenient and clean, that he does not hesitate to communicate the facts.

Professor Velander is well known among the profession for the work he has done in this speciality of our art. The Velander method of curing soft chancre by heat is widely spread and adopted with or without modifications. His investigations some years ago on the absorption of mercury in unguentum hydrargyri led him to the conclusion that it is mostly, if not entirely, absorbed by inhalation of the evaporated mercury, and induced him to use in the administration of this drug a combined method of rubbing in the ointment and spreading it out on different parts of the body, and later the simple method of only spreading it over the skin. These facts are now well known. This year he has finally given up spreading the ointment over the skin and relies entirely on the application of the ointment to the inner surface of a pillow-case, which is to be fastened about the patient's body, from the neck downward. This method is now so generally accepted in Sweden that it is there almost the only one at present used in the general administration of mercury externally.

The pillow-case is made of cheap cotton cloth. It measures 38 by 54 centimeters (15 by 21 inches), and has ribbons for its suspension over the chest. The ribbons are placed two laterally at each edge, 12 centimeters (4¾ inches) above the lower corners, and four upward, namely, two opposite each other at the upper edges, 6 centimeters (2½ inches) from the corners. The ribbons are about 64 by 1.5 centimeters (25 by 0.5 inches).

The pillow-case is suspended from the shoulders with the external part of its medicated side toward the body—that is, under the clothing—and is held in position by the ribbons which are tied around the waist and over the shoulders down to the waist ribbons. It is worn consecutively for ten days, alternating every twenty-four hours from the front of the chest to the back, fresh ointment being supplied every night without wiping off the old. After ten days a new pillow-case is applied.

Baths are to be taken once or twice a week, the skin under the pillow-case being washed every night.

Dr. Verlander uses, besides this ointment treatment, all necessary local treatment, etc, and with the ordinary attention to the mouth he has not met more stomatitis than usual.

The quantity of ointment used is six grammes (1½ drachms), of a strength of two hydrargyrum to four constituens, and, as before said, it is spread every night over the same half of one of the insides of the pillow-slip. The best way of doing this is to spread the ointment over the outside and afterward turn the pillow-case outside in.

This simple treatment is very convenient for the patient, as he can go about comfortably as usual, is not bothered with any painstaking rubbing, easily keeps himself clean, and at the same time can easily conceal his treatment.

The pillow-case method is also very satisfactory for the doctor, as the mercury seems thus to be absorbed quicker, with less irritation.

SPEEDY RELIEF OF CHOREA BY BROMATE OF CAMPHOR.—(*Le Progrès Medicale*, Budeaux, 3d Serie, T. VIII, No. 29.) By Drs. Bourneville and Katz.

The case was a girl thirteen years of age who, previous to illness, had always enjoyed good health, but was very nervous, having been under some strain from her studies, for which she had always shown great aptness. She grew to be irritable, clumsy and disagreeable, until finally one day she was taken with a spell in which she became blue, and in two days developed marked choreic movements, which gradually increased in severity until she had to be put to bed; her rest was disturbed, talking and swallowing were difficult. Upon examining the heart a systolic murmur was heard. All the other organs were normal. Camphor monobromate was given in 0.2 gram doses in capsules, starting with two a day and increasing one capsule every other day until nine were given. Such marked improvement was attained that in one week after the medicine had been given the patient was able to sit up. As the movements became less medicine was reduced and in about one month the patient was perfectly well. Cod-liver oil and syrup of the iodide of iron were also given in conjunction with exercise and proper hygiene. The case has been very carefully studied by the authors, and the family history is quite complete, the maternal side showing quite a nervous tendency. The mother had rheumatism at eighteen years of age, which, in their conclusions, they think may have a bearing upon the disease.—*Int. Med. Mag.*

MEDICINE.

UNDER THE CHARGE OF

WM. CLIFTON LYLE, M. D.,
INSTRUCTOR IN CHEMISTRY IN THE MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.
R. L. PAYNE, A. M., M. D.,
NORFOLK, VA.

The Bacteriology of Progressive Cirrhosis of the Liver.—(*The Lancet*, August 13, 1898.) By J. G. Adami, F. R. S., Edin.

In the course of an extended investigation into the Pictou (Nova Scotia) cattle disease undertaken in 1894 and 1895 on behalf of the Government of the Dominion of Canada, Adami discovered an exceedingly small micro-organism in the nature of a diplococcus in the liver and neighboring organs of cattle died of that disease. Since the most constant lesion in this disease is a singularly extensive cirrhosis of the liver he has examined microscopically the liver tissues in many bodies of persons died of hepatic cirrhosis with results which he thinks prove: 1. That in at least a very large number of well-marked cases of progressive cirrhosis in man there is to be found, largely within the liver cells and also in the lymph spaces in the newly formed connective tissue, a peculiar and very minute form of micro-organism, presenting on staining to the proper extent the form of a diplococcus surrounded by a faint halo, or when stained deeply being a rather obscure ovoid bacterium, which may easily be mistaken for stained deposits within the cells. 2. That in the infective cirrhosis of cattle a very similar micro-organism is recognizable, present in like positions within the tissues and showing similar appearances when stained. He adds: 3. That from at least thirty cattle affected with this disease I have been able to isolate the micro-organism from the liver, bile, abdominal lymph glands, and in some cases from the various organs of the body. 4. That the micro-organiam isolated from these cattle is a polymorphous micro-organism appearing as a small diplococcus when grown upon broth, and tends to assume a distinctly bacillary form when grown on solid media. 5. That this micro-organism is pathogenic for the animals of the laboratory, and that in them it is to be recognized within the hepatic cells as in other regions. 6. That from a case of distinct atrophic cirrhosis in the human being I have been able to isolate from various organs of the body a similar micro-organism, which, grown in broth, has a diplococcus form, and, grown upon agar, is present as a short or longer bacillus according to the age of growth. Adami believes that in cases of all persons over forty years of age affected with this disease his newly discovered diplococci will be found and inclines to the theory that this micro-organism has a causative relation to both cirrhosis in man and the Pictou cattle disease.—*Int. Med. Mag.*

REST—A NEGLECTED FACTOR IN THE TREATMENT OF GASTRO-INTESTINAL DISORDER.—(*Jour. Amer. Med. Ass.*, July 30, 1898.) By Dr. C. D. Spivak. In this paper, which was read before the Section on Practice of Medicine at the last meeting of the Americal Medical Association, the author reasons that rest is quite as useful in the treatment of gastro-intestinal diseases or disturbances as in surgical or nervous infections and yet rarely employed. He describes three methods by which rest can be given the affected digestive organs: 1. Rest in bed. 2. Diet. 3. Hot poultices. These are thus explained: 1. *Rest in bed.*—In severe cases I follow the method of Weir-Mitchell to the letter: 1. Absolute rest in bed. Sitting is not allowed under any circumstances. The bowels are regulated; the bed pan is used. 2. Sponging the whole body every morning. 3. Isolation. 4. Massage. I have not had yet a case that required electricity. In milder cases I use my judgment as to isolation and massage. 2. *Diet.*—In many severe cases of gastro-intestinal disorders the best bill of fare is abstinence. One, two or even three days' fasting will do no harm in cases of ulcer, dyspepsias, and diarrhœas of all kinds and varieties. Nutritive enemata can be employed in cases where a longer period of fasting is necessary. When food by the mouth is allowed it must be given in small quantities, ne matter whether liquid or solid, and at regular intervals. Every caso must be individualized as to the quality and quantity of food. 3. *Poultices.*—I shall not attempt to formulate a theory as to the action of poultices. Whether the poultices hasten the expulsion of food from the stomach, as has been shown experimentally by Fleischer, or they cause the acceleration of the circulation of the blood in the abdominal viscera, is not yet definitely settled. I am certain, however, of one thing, and that is that, as they aid the peristaltic movements of the stomach, they make the patient feel comfortable and keep him warm and at rest. *The poultices take the place of splints.* In severe cases the poultices are applied constantly during the day for one and two weeks; in milder cases from four to eight hours daily. Spivak, after reporting nine cases in which this method produced prompt curative results, reaches the following conclusions as to the indications for it: 1. It is indicated in all dyspepsias, the underlying cause of which is a deranged nervous system. 2. It is indicated in all cases where abdominal pain is present. 3. In all cases of acute and chronic diarrhœa. 4. In hemorrhage from the stomach or intestines. 5. In all cases of movable or floating kidney. 6. In all tubercular cases suffering from disturbed digestion, be it stomach or intestine, and especially those that have a vacillating temperature record, and as there are but few cases of tuberculosis that do not suffer from some form of gastro-intestinal disorders, the rest cure is indicated in 50 per cent. of all cases of tuberculosis. Not only are they relieved from their annoying digestive symptoms, but their general condition markedly improves. 7. I have yet to learn of a disease of the gastro-intestinal tract where the rest treatment is conradicted.—*Int. Med. Mag.*

GENERAL SURGERY.

UNDER THE CHARGE OF

HUGH M. TAYLOR M. D.

PROFESSOR OF SURGERY IN THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

WILLIS F. WESTMORELAND, M. D.,

PROFESSOR OF SURGERY IN THE ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS, ATLANTA, GA.

GUNSHOT WOUNDS OF THE CHEST.—Dr. Senn thinks we have made but little progress in the treatment of penetrating wounds of the chest. Direct operative treatment of visceral wounds of the heart and lungs is always attended by imminent risk to life by pulmonary collapse. This source of danger he thinks stands in the way of direct treatment of visceral wounds of the chest. He thinks the profession is opposed to the heroic practice of freely incising the chest wall, as advocated by some of the French surgeons. He reminds us that hemorrhage from wounds of the lung is not infrequently arrested by pressure of the clotted and accumulated blood in the chest, causing temporary tamponade. He thinks the experience during the "War of the Rebellion" (war between the States) proved that in gunshot wounds of the chest a perforating wound was less often fatal than a penetrating wound. He saw a number of soldiers in the Græco-Turkish war that had been shot through the chest convalescent and in fair health a few weeks after the injury was inflicted. He thinks unless the source of hemorrhage is one of the intercostal or internal mammary arteries we had best trust to nature's arresting it. Hemorrhage from an intercostal had best be treated by an hourglass-shaped tampon. A rise of temperature during the first forty-eight hours does not necessarily mean sepsis, but rather points to febrile disturbance caused by absorption of fibrine ferment, the so-called fermentation fever. The production of an artificial pneumothorax or hydro-thorax by introducing into the cavity of the injured side sterilized water, air or gas, etc., has not, he thinks, proved satisfactory in the treatment of intra-therocic hemorrhage. He thinks the best plan is to hermetically close the wound and wait for complications, which must be treated as they arise.

GUNSHOT WOUNDS OF THE ABDOMEN.—In this era of abdominal surgery the treatment of gunshot wounds of the abdomen is naturally a most interesting division of Dr. Senn's paper. As a matter of history we do not think the South should forget the fact that the pioneer work in connection with modern treatment of gunshot wounds of the belly was done by Southern surgeons, notably Sims, McGuire and Kinlock. Twenty years ago these masters in surgery advocated prompt operative interference, and the talented Dr. Kinlock was one of the first to carry his views into practice. Dr. Senn reminds us that the evolution of abdominal surgery necessarily inaugurated a new epoch in the treatment of penetrating wounds of the abdomen. Experience in civil practice has foreshadowed the possibilities for good in the field by prompt operative interference. Bayonet and sword wounds he thinks will be few, and most of the penetrating wounds of the belly will be made by small bullets, and a majority will probably be perforating. It was noted by the surgeons in the war between the States that perforating wounds were more frequently recovered from, especially of the pelvis, as drainage was better. The wounds of entrance and exit will be too small for digital exploration. We can but think this fortunate, as it would be better if too small for either finger or probe. We heard a story told yesterday by an old Confederate surgeon. Finding a comrade with a wound of the abdomen he put his finger in and thought he was sure it was not a penetrating wound and so informed the wounded man. "Let me see," said the soldier, whereupon he poked his own finger in, took it out, put it to his nose and said, "Yes, doctor, you are correct, I don't smell anything." The modern surgeon had better trust to smelling than to probe or finger. The former can do no harm, the latter can do great harm and but little good. Dr. Senn writes: "It is perhaps superfluous to make the statement that a penetrating wound of the abdomen should never be probed, either for diagnostic or therapeutic purposes." A clean dissection along the tract is the accepted practice. If penetration is found, what then? Shall celiotomy be done to ascertain if there is visceral lesion? Dr. Senn seems not to be in full accord with, we think, the very general and correct opinion that a section should be made in all cases. He rather favors expectant treatment in the absence of evidence of visceral lesion, and claims a death rate from section *per se.* He agrees that escape from visceral lesion is improbable if penetration is below the umbilicus, but thinks it possible if the wound is above that point. In two out of sixteen cases which have come under his observation he has been able to demonstrate the absence of visceral lesion without exploratory incision, and the diagnosis was made by using his well-known hydrogen gas test.

SYMPTOMS.—We can hardly say that Dr. Senn, in his paper, adds anything to the symptoms of gunshot wounds of the abdomen. As is well known, a contusion of the abdomen or a non-penetrating wound may present the same symptoms as those manifested by a penetrating wound with or without visceral lesion. As profound shock may exist without perforation as with it, and hence shock *per se* is no guide, and its diagnostic value is summarily dismissed by Dr. Senn. While the presence or absence of shock is no guide, is it not possible to learn something by the behavior of shock? Is it not probable that shock followed by reaction and recurring shock points to a penetration with visceral lesion and hemorrhage or extravasation. Prolonged shock and progressive anemia would also we think sound a note of warning. Shock *per se* should be immediate in its onset and reach its acme at once. Shock from intra-abdominal bleeding and effusion of hollow visceral contents should be slower in its onset, progressive in character and more lasting. A case in point was seen recently an hour after being shot. After having walked several hundred yards, and after having traveled forty or fifty miles on a train, there was no appreciable shock, while three hours later the patient was collapsed. A section found his abdomen full of blood and extensive visceral lesion. Vomiting is no guide. Patients shock from a non-penetrating wound vomit freely. In the case above mentioned the patient vomited several times, no blood, and yet there was a perforation of the greater curvature of the stomach. Shock, pain, vomiting are unreliable guides. Dr. Senn says: "Pallor is present in all penetrating wounds of the abdomen soon after the receipt of the injury, and it is only more pronounced when produced at least in part by sudden and severe hemorrhage." We should think pallor would be equally common in profound shock incident to a non-penetrating wound or in a penetrating wound without visceral lesion. "Hemorrhage," says Dr. Senn, "caused by wounds of any of the large organs, as the spleen, liver or kidneys, gives rise to progressive acute anemia, small, rapid pulse, cold, clammy perspiration, dilated pupils, yawning, vomiting, and in extreme cases syncope and convulsions," symptoms identical with those of shock, and hence we think in themselves no practical guides in differentiating between penetrating and non-penetrating wounds and between penetrating wounds with and without visceral lesion. As we have said, however, the time of onset of such symptoms, unless the hemorrhage be from a very large vessel with rapid outpour of blood, is of value in making a diagnosis. A quantity of blood in the abdominal cavity may be inferred by pelvic and lumbar dullness on percussion. In a recent case of intra-abdominal hemorrhage from ruptured tubal gestation the lumbar dullness and bulging of the cul de sac was marked and confirmatory as to our diagnosis. This evidence, however, should not, we think, be waited for in gunshot wounds. Operative interference, when practicable, should be done to prevent this profuse hemorrhage and the condition of acute anemia which must markedly diminish local and systemic resistance. Blood in the stools also occurs too late for early operative interference, and wounds of the mesenteric border will probably not bleed into the lumen of the bowel and will probably kill, if not by hemorrhage by sepsis incident to effusion, to necrosis of the bowel from destroyed vascular supply, or to sepsis from intestinal paresis and ilius. Circumscribed emphyema in the wound tract is no guide, as it may be due to air entered from without or to gas from putrefactive infection. Escape of gas into the peritoneal cavity and obliteration of the normal area of liver dullness may be diagnostic in some instances, but Dr. Senn reminds us that pre-existing adhesions between the convex surface of the liver and chest wall may negative this evidence, or again, the amount of gas may not be sufficient to separate the chest wall from the liver.

Visceral protrusion or escape of their contents will be infrequent from wounds of modern small arms with small bullets and wounds. Concluding his remarks as to the symptoms Dr. Senn thinks "there is nothing about the local or general symptoms in cases of penetrating gunshot wounds of the abdomen that would enable the surgeon to decide with any degree of certainty soon after the injury was received whether or not visceral injuries existed, and, consequently, whether laparotomy should or should not be performed.

DIAGNOSIS.—This division of the subject is especially interesting. Upon our diagnosis must be based our treatment and prognosis. A non-penetrating wound, a penetrating wound without visceral lesion, and a penetrating wound with visceral lesions are very different morbid conditions and demand on the one hand conservative or radical treatment. One of the great drawbacks connected with the treatment of gunshot wounds of the belly is the difficulty of making a differential diagnosis. Dr. Senn's views are in accord with the accepted opinion that the symptoms are not to be relied upon, and this is true to such an extent that many, I may say a majority of surgeons, favor dissection to see if the wound has penetrated the abdomen, and celiotomy to ascertain if there are visceral lesion. Conservative surgeons sanction this radical practice because they feel that we cannot know the condition of the abdomen early enough for safe operative interference until a section is made. Dr. Senn does not admit that a section is necessary to ascertain a lesion of the gastro-intestinal tract. For fifteen or perhaps twenty years he has urged the diagnostic value and safety of distending the gastro-intestinal tract with hydrogen gas or filtered air. He still urges its use, and reminds us that by its help in sixteen cases he has been able to establish that there was no lesion of the gastro-intestinal tract in two of the cases, and of course no operative interference was indicated, as there was also no indication of solid visceral lesion. In addition to his experience in the sixteen cases mentioned he has thoroughly tested the diagnostic value of this means by experiments on the lower animals. We think we are correct in stating that the profession has not taken hold of this diagnostic means as its importance would seem to warrant. Many perhaps have not used it because when an occasional gunshot wound of the belly was met with we had no hydrogen gas in a tank ready for use, and no apparatus for forcing filtered air into the bowel. Not a few surgeons have expressed the idea that in distending the bowels we ensure extravasation; practically we may be sure of extravasation without insufflation. Extravasation if recognized is of minor importance; extravasation not recognized, treated expectantly, with the certainty of septic peritonitis, is the danger. Dr. Senn rewrites the technique of insuffiation. We do not reproduce it because it can be found in many modern textbooks. We are glad the subject has again been dwelt upon by Dr. Senn, and we devoutly hope its more general use will prove it worthy of confidence, for we are sadly in need of the means of differentiating between penetrating wounds with and those without visceral lesion. Until we have some such means to help us it seems to us justifiable to do a celiotomy in every instance in which a dissection of the wound in the abdominal wall shows the belly to have been perforated. To wait until there are manifestations, the outcome of sepsis, hemorrhage and acute anemia, is dangerous procrastination. Dr. Senn does not sanction operative interference in the absence of symptoms of visceral lesion or hemorrhage, as he recognizes in simple exploratory incision a mortality and also the fact that penetrating wounds without visceral lesion usually recover. We very much doubt if the mortality from a simple section exploration of the abdominal contents is larger than a penetrating wound without visceral lesion, and in the absence of the positive information obtained by a section the matter of diagnosis and prognosis and treatment must ever be anything but satisfactory.

TREATMENT.—Dr. Senn thinks "the propriety of surgical interference in gunshot wounds of the abdomen will depend upon one of three things: I. General conditions of the patient. II. Dangerous internal hemorrhage. III. Wounds of the stomach or intestines large enough to permit extravasation." And he might have added, wounds of the urinary and bile tract. We have always thought it a mistake to suggest the idea that there is a possibility of extravasation not occurring in gunshot wounds of the stomach, bowels and urinary and gall bladder. In the stomach, small bowel, gall and urinary bladder the contents are practically always fluid and an immediate outpour of contents is to be expected. There is no time we think for plastic peritonitis and walling in. When plastic peritonitis does occur we think it is the result of bowel contusion and subsequent effusion and walling in, and we certainly think it unsurgical to expect nature to accomplish such a task when the lumen of the hollow viscera is opened and fluid contents thus permitted at once to escape.

Dr. Senn discourages operative interference in cases hopelessly doomed, as it brings surgery into disrepute and deters others from submitting to an operation when the chances of saving life are good. For profuse intra-abdominal bleeding he employs early operation as imperative, but in moderate bleeding he thinks we can wait, with the assurance that spontaneous arrest is not infrequent and the peritoneum is capable of disposing of large quantities of aseptic blood. This last advice it seems to us must, with our present knowledge, be classed as unsettled.

OBSTETRICS AND GYNÆCOLOGY.

UNDER THE CHARGE OF
WILLIAM S. GARDNER, M. D.,
INSTRUCTOR IN GYNÆCOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE, M. D.
HUBERT A. ROYSTER, A. B., M. D.,
RALEIGH, N. C.

Enucleation of Uterine Fibroids.—(*The British Gynæcological Journal*, May, 1898). By William Alexander, M. D.

Alexander holds that once a fibroid shows symptoms and signs the "life of the patient is spoiled." She becomes an invalid and her life is in danger from the numerous accidents and complications. Except where life is threatened or the condition of the woman is very wretched, the mutilating operations of hysterectomy and oöphorectomy seem too severe. If it should prove as safe to remove the tumors without the uterus and ovaries it would be much better surgery, and in young women with small tumors it would be obligatory. The author's first enucleation operations were done by splitting down to the capsule; enucleating; controlling hemorrhage by transfixing the uterus, just below the point of enucleation, with a double silk ligature which is tightly ligated; packing the cavity left after enucleation with gauze dipped in Monsel's solution, which is kept firm by tying over it the ends of the transfixation ligature; and finally the fixing of the peritoneum to the uterus just below the ligature and closing the wound. No slough or hemorrhage followed, and the uterus gradually dropped back into the pelvic cavity. All the appendages and all the uterus but a small portion of the wall were left and only the tumor sacrificed. The disadvantages of this method of operating was the removal of a part of the uterine wall and the fact that it is only applicable to fibroids on the summit of the fundus. The present method of operating is as follows: A median abdominal incision is made, large enough to allow of the delivery of the tumor through it by pressure from below by an assistant's fingers in the vagina. The abdominal cavity is then closed off by packing around the tumor with sponges. A vertical incision is made in the uterine wall covering the tumor, and it is enucleated through this incision by the fingers and blunt dissector. All bleeding points are caught and ligated with catgut immediately. Several tumors may be thus removed through one incision. The resulting cavity is then packed with a strip of iodoform gauze, leaving one end emerging. The uterine incision is closed with numerous superficial and deep catgut sutures except where the gauze emerges. A single silkworm gut suture is passed through the uterine wall above the incision and through the entire thickness of the abdominal wall above and on each side of the abdominal incision, temporarily fixing the fundus to the abdominal wall. The abdominal incision is finally closed by through-and-through silkworm gut sutures and buried sutures in the peritoneal layer, leaving a small opening for the passage of the strip of gauze from the uterus. The wound is dressed with double cyanide gauze and salicylic cotton, the latter being changed as often as necessary in the first forty-eight hours. At the end of that time about a foot of the iodoform gauze is slowly and gently removed, and the same amount daily until all has been removed. The retaining silkworm gut suture is removed at the end of fourteen days, and the uterus allowed to drop back into the pelvis. In case the uterine cavity is opened a rubber drainage tube is passed all the way through from the abdominal wall into the vagina in addition to the packing, and after the gauze is removed antiseptic lotions are syringed through this tube until the operation cavity has shrunk up and disappeared. Eleven cases are recorded with one death from operation, but not directly due to the special character of the operation. Hemorrhage seems to be easily controlled and the uterus retained in proper position by this method. The chances seem against the return of the tumor because of the traumatism inflicted, and the age of the patients upon whom this operation is usually performed. There is no reason why the uterus should not resume its normal functions after such an operation. This operation is not recommended as a panacea for fibroids, but in all cases where it can be safely and conveniently done it is the most desirable operation.—*Int. Med. Mag.*

FLOATING KIDNEY IN WOMEN, ESPECIALLY THE IMPORTANCE OF ITS CONSIDERATION FOR OBSTETRICIANS AND GYNÆCOLOGISTS.—(*Monatschrift für Geburtshulfe u. Gynekologie,* January, 1898). By C. Keller, of Berlin.

Essentially a disorder common to women, floating kidney excites great interest in the gynæcologist, as it stands in close relation to the functions and disorders of the female genitalia. There is no satisfactory theory to account for its causation; a congenital tendency may exist, but so far no such condition has been discovered in autopsies upon infants. The symptoms usually become prominent between the twentieth and fortieth years. Many causes have been suggested for this late appearance; some acting upon the body from without, as traumatism, tight lacing, etc.; others depending upon changes within the body; as rapid emaciation, relaxation of abdominal walls, etc. No one theory will account for all cases, but the elements of each individual case must be considered. A sudden traumatism may have loosened the suspensory appartus of the kidney; compression of the lower thorax by corsets, tight lacing, heavy skirts may have stretched these supports gradually or the excessive action of the diaphragm due to chronic cough or constipation, or the lifting of heavy weights, may have exaggerated the normal respiratory displacement of the kidney to an abnormal degree. Counteracting the tendency to displacement is the general intra-abdominal pressure, and anything that tends to lessen this throws a greater strain upon the blood vessels and connective tissue holding the kidney in place, and thus encourages an abnormal degree of mobility. Relaxation of the abdomen after childbirth is the most common cause of this diminution of pressure, therefore, the most important prophylactic measure is the careful treatment of the woman during the puerperium. The removal of large abdominal tumors, producing the same effect as childbirth, the rapid absorption of the large deposits of fat usually found in the mesentery and beneath the peritoneum contribute to these displacements by decreasing the contents of the abdominal cavity, and by loosening the attachments of the kidney through absorption of the peri-renal fat. In such cases the therapy is naturally an improvement in the general nutrition of the patient and the alleviation of the nervous symptoms. Keller does not believe in any direct causal connection between diseases of the female genitalia and movable kidney. The conditions are often found associated, but their simultaneous occurrence must be looked upon as due to a common cause or purely accidental. There is no complex of symptoms characteristic of movable kidney, nor is the distress always proportionate to the amount of displacement. There may be great discomfort, but there is usually nothing in the symptoms to point to the kidney rather than to other organs as the seat of the trouble. The location to which the pain is referred and the character and duration of the pain vary greatly. The diagnosis is possible only after the abnormal mobility of the organ has been shown by careful palpation. Phantom tumors, fibromata of abdominal wall, a movable spleen, tumors of the liver and gall bladder, of the stomach, duodenum, colon omentum, and even of the ovary and uterus may be mistaken for the displaced kidney, the recognition of which rests upon the shape, the presence of the hilum and the pulsation of the renal vessels. Most often the diagnosis must be made by exclusion. The differential diagnosis from tumors of the uterus and adnexa may be quite difficult when the displacement of the kidney is sufficient to allow it to descend into the pelvis, or when it occupies that position congenitally, but as a rule it is not difficult when suspicion of the condition leads to careful examination. The treatment is entirely symptomatic. Though we may occasionally determine the cause, we can rarely cure the disease. The apparatus usually recommended is of little service in keeping the kidney in place and nephroraphy is too often followed by relapse. A strong light flexible binder, making pressure over the lower abdomen and supporting the relaxed abdominal muscles, may give relief, or a truss with large abdominal pads may be tried. A cure can scarcely be expected, but sometimes such apparatus relieves the distress. The abdominal muscles should be strengthened by massage, faradization, etc., and the general health of the patient must be improved by tonics and careful hygiene. Nephroraphy may give temporary relief, but an early resumption of hard work is almost certain to cause a recurrence of the trouble. When the operation is done its effect should always be supplemented by the long continued use of a binder.

Marriage Between Cousins.—Dr. John Inglis (*Columbus Medical Journal*, August 16th) says: 1. In the marriage of cousins-german the effect upon offspring will follow the law of heredity, the consanguinity *per se* being *nil.* 2. Given high physical, moral and intellectual development, the effect of the union would be beneficial rather than otherwise. 3. Special talents, either for good or evil, may be developed by intermarriage. This was the case in the historic musical family, the Bachs, where the musical talent was developed to a high degree of excellence. 4. In an effort to compare one hundred cases of marriages between cousins-german with one hundred average marriages where no relation existed, he took by lot from a physician's case book, who had practised in a town of fifteen hundred inhabitants for thirty years, and knew their family histories well, the names of one hundred families, and had this physician give him the record of these one hundred marriages with regard to sterility, pulmonary, mental and congenital diseases. These were then compared with the marriages of cousins. The latter showed a lower percentage of sterile marriages and a slightly lower percentage of mental diseases. In pulmonary and congenital diseases there was about the same percentage of difference in favor of the former. In all other particulars the difference amounted to as little as any such comparisons can. In the one hundred cases of those not related, seventeen per cent. were sterile; in the cousins-german, fourteen and a half per cent. These figures agree very nearly with Huth's investigations. 5. The objection to cousins marrying, so far as there is an objection, is on the ground that very few families to-day are free from some tendency to weakness along some particular line; and it is equally true of these and of all marriages that heredity takes the line of least resistance. A marriage between two healthy cousins coming of a line free from any hereditary defect is perhaps as fair as the average marriage. 6. But only carefully selected cases of first cousins should marry, and in no case where any hereditary moral or physical defect exists. 7. The early objections to such marriages were on religious, not scientific, grounds. Notwithstanding this, it is a significant fact that the Mosaic law permitted them.

These conclusions are in keeping with the most recent investigations of this subject, such as those of the younger Darwin and Huth, of England, and Holbrook, of New York, in stripiculture.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

UNDER THE CHARGE OF
S. POTTS EAGLETON, M. D.,
LATE ASSISTANT SURGEON TO WILL'S EYE HOSPITAL, PHILADELPHIA, PA.; OPHTHALMIC SURGEON TO MARION COUNTY SURGICAL HOSPITAL, OCALA, FLA,
J. LAWTON HIERS, M. D.,
SAVANNAH, GA.
CARLTON MITCHELL M. D.
NEW ORLEANS.

A Discussion of the Pathology of Quinine Amaurosis.—This case presented such well-marked distinguishing peculiarities as to deserve attention from any one knowing the fundus.

It was that of a young woman who was given two hundred and forty grains (sixteen grammes) in thirty hours. It was given because of a diagnosis of pernicious malarial fever, subsequently treated as yellow fever. At the end of that period she was only apprised of a lamp held close to her face through the heat terminals of the fifth nerve, the optic not responding. There was neither deafness nor tinnitus observed by or complained of to the physician in charge.

When I saw her the fundus needed no history. Her vision for infinity was $\frac{20}{40}$. Reading, Jaeger No. 2. Corrected, she read $\frac{20}{30}$ and Jaeger No. 2. The ophthalmoscope showed the fundus here exactly presented. The narrowing of the retinal vessels' calibre was remarkable, considering the visual acuity.

The reduction in calibre of the retinal artery was at least one-half.

The accepted explanation of quinine amaurosis is a spasm of the tunica musculosa (conventionally, tunica media). It is reasonably sure that the sudden blindness is due to a narrowing of the vessels supplying the rods and cones, because this can be brought about by no other conceivable agency. Granted that no physiologist can conceive of muscular tissue, striated or unstriated, maintaining such a condition, then, in the absence of definite absolute testimony, to be credited only to a pathologist competent to prepare and judge judiciously sections of the retinæ of the rare sufferers of this amaurosis, I submit this explanation for the consideration of the profession.

When an arteriole responds to the irritation of the vaso-constrictor impulses to its muscular coat, the endothelial cells must necessarily reduce their superficial area. With this condition established, a *vis a tergo* preventing the endothelium from absolute contact, the rapid administration of the irritant, quinine, keeping the contractions at, approximately, near summation, it becomes necessary for the overstimulated tunica media to be reinforced.

Irritation, inflammatory causes being absent or non-operative, logically produces proliferation.

The endothelium being necessarily in extreme, strenuous contraction to its protoplasm's utmost, and being acted upon by the arterial pressure, it, theoretically and practically, does not respond further. The tunica media, being held at or near its summation of impulse, can not.

Between these two lies a tissue areolar in structure, and consequently eminently adapted for changing its relation to space, and even more adapted to respond to irritation by proliferation. That the vessel wall does not dilate by reason of its exhausted muscles failing is due, I believe, to the formation of rigid connective tissue from the fixed tissue cells of the subepithelium and elastic lamina. When this is established, the function of the tunica media is gone, and the vessel remains permanently smaller because atrophy follows the supplanting of its contractile function. This theory is additionally supported by the consideration of the fact that all the tissues involved are of mesoblastic origin, and by reason of their well-known metaplasia proliferate their own or other mesoblastic units. The maintenance of a patulous though diminished arteriole, as seen in these cases, without a sign of inflammation, demands such an explanation and, so far as the writer knows, no other explanation will agree with the observed conditions and with modern pathology.

The appended charts are only to show that the peripheral retina was nourished and the threadlike vessels patulous. The treatment was atropine and cardiac stimulants. Faithful effort was made to take advantage of the susceptibility of the superior cervical sympathetic ganglion to the vaso-inhibitant influence of a constant current pushed to the bearable amperage.

The perimeter charts, the test for infinite distance, the test of near vision, with and without ametropic correction, all showed improvement.

Quite possibly time alone would have shown the same recovery.—*A. P. Mitchell, M. D., of Vicksburg, Miss., in N. Y. Med. Jour.*

Acute Otitis Media.—I have seen the following simple device, always convenient, gives grateful relief: A piece of cotton is placed lightly in the mouth of the canal. A pipe is filled with tobacco and lighted. Then a piece of clean cloth is placed over the mouth of the pipe bowl and gently blown through, while the lip piece of the warm stem rests against the cotton pledget. This filters the warm smoke through the cotton into the canal, and a grateful sedative effect is soon obtained. I do not remember having seen this remedy mentioned in the books, but I have witnessed its efficacy in the absence of other remedies. The practice indulged in by the laity of pouring oils, etc., into the ear is a vicious one, since these become rancid, irritate, and predispose to a subsequent inflammation. Poulticing is also bad, for it favors suppuration and perforation of the drumhead. —Dr. Seth Scott Bishop.

PEDIATRICS.

UNDER THE CHARGE OF

T. PINCKNEY WARING, M. D.,

SUPERINTENDENT TELFAIR HOSPITAL, SAVANNAH, GA.

The Mental Hygiene of the Adolescent Period.—(Theodore Delber, M. D.)—The chief features of the adolescent period are the development of sexual characteristics and the unfolding of new mental operations and their adjustment to each other. It is indeed significant that with the beginning of sexual life (which is only completed at the end of the adolescent period) should also begin mental operation hitherto latent or absent, and a new adjustment to the outside world, the most striking features of which are the realization of the world outside, the awakening of the altruistic spirit and religious emotions. These all result from rapid developmental changes in the nervous and sexual apparatus which occur about the time of puberty.

Properly constituted adults who have been under a strong, wise and sympathetic teacher during their adolescent periods commonly realize the large debt of gratitude owing to him for the moulding of character which they received from him.

These solemn responsibilities and magnificent opportunities of the teacher are being more and more realized. The science of pedagogy is to-day being studied more earnestly, more largely and intelligently than ever before; it is being studied, too, in the light of modern physiology and psychology.

The responsibilities of the parent and pastor are not less, but rather greater than those of the teacher. All three should work together much more than they do.

The nutritive changes accompanying the growth and highly complex developmental changes of the adolescent are so great that long hours of sleep and abundance of nutritive food are the first requisites from the physical point of view. The healthy adolescent is, however, capable of very considerable mental and physical labor without harm if very long or continuous efforts be avoided and if sufficient time be allotted him for recreation and play—play being regarded as one of the perennial instincts and all schemes of training should be provided for.

The fact that sexual and religious delusions are commonly seen in the insane bears witness to the importance of these perennial instincts.

The physician comes in less intimate contact with the healthy adolescent. But indirectly too his influence may be great, for the parent or guardian naturally look to him for help.

PHARYNGEAL COUGH IN CHILDREN.—(*Jour. de Med. de Paris*, 1896, viii, 535). Pharyngeal cough is frequently met with in children, but its cause is frequently allowed to go unrecognized. The cough is severe, comes on in spasms, occasionally has a rough sound, and is followed by expectoration of mucus. Very active play or the crying of the child may bring it on frequently during the day; at night the intervals are longer, but its most violent paroxysms are at bedtime, at midnight and on awakening. The mucus thrown out is thick, tenacious and filiform. Treatment of this form of cough, which occasionally resembles whooping cough, is mainly local. On examination we find the pharyngeal mucous membrane red and swollen and presenting all the signs of a chronic pharyngitis, which may be either of the hypertrophic or the atrophic form. The presence of a pharyngeal catarrh during an attack of whooping cough must not be overlooked, as the latter will be of long duration unless local applications to the pharynx are made. In uncomplicated cases of whooping cough the daily painting of the throat with a 5 per cent. solution of resorcin is very effectual. Pharyngeal cough usually affects children between the ages of six and ten years. As a therapeutic measure, local applications to the throat of a 50-100 per cent. solution of resorcin or iodine-glycerine (tr. iodi., glycerin ää p. aeq., in children under two years of age: Tinct. iod. 1, glycerin 2-4), twice to three times a week, in conjunction with gargles, are to be recommended. A few paintings are usually sufficient to remove the pharyngeal cough.

A STUDY OF THE CAUSES OF DIFFICULT DEFECATION IN INFANTS.—An instructive paper is offered by T. C. Martin (*Cleveland Med. Gaz.*, vol. xiii, No. 6), referring to the fact that infants and young children strain at stool because of the imperfect development of the anatomic features concerned in the mechanism of defecation, which are: 1. The infant's lower gut is muscularly deficient. 2. Its mobility within the abdomen is obstructive to defecation. 3. The rectal valves are obstructive. 4. The infant's anus, not being sufficiently expansible, is also obstructive to defecation. Numerous specimens of infant recta and sigmoid are referred to in text, as well as through illustration; these, though somewhat shrunken by age, as well as by process of preparation, are fairly illustrative of the facts upon which the declarations of the paper are based. The relations of the peritoneum to the rectum in the infant contribute to the difficulties of defecation, as does also the relatively great length of the descending colon and sigmoid flexure. In young children the length of the sigmoidal mesentery from its attachment to the parietes to its invagination of the lower loop of the sigmoid is often greater than the distance from the promontory of the sacrum to the distal bone of the coccyx. From the sigmoido-rectal juncture to the beginning of the middle third of the rectum the mesentery rapidly shortens, but the peritoneal coat completely invests the upper third of the rectum. The parietal peritoneum descends over the ischial tuberosities and approaches nearly to the ental sphincter muscle; in the newly-born the peritoneum is situated within one-fourth inch of the anal skin. The disproportionately great length of descending colon and mesentery in the infant obviously contributes, as shown by the writer, to the possibility of angulation of the gut. The third factor as regards obstruction to defecation in infants and young children is the rectal valve, a feature and factor not only generally unrecognized, but one whose very anatomical existence has been most ingeniously and persistently disputed. The specimens shown by the writer prove that the existence of the valve is no longer a matter for debate. From this it must be seen that the presence in the rectum of such a structure as an anatomic valve would be essentially obstructive to the passage of feces. Regarding the inexpansibility of the infant anus, as compared to the adult, the writer further shows by the several specimens presented, that the juxtaposition of the ischial tuberosities in the infant supplies a most obstructive factor.—*Am. Med.-Sur. Bul.*

EMPYEMA OF ANTRUM IN A CHILD AGED EIGHT WEEKS.—(*British Medical Journal*, September 25, 1897). By D'Arcy Power, F.R.C.S. Eng.

The author reports a case of this condition in a boy aged eight weeks. On admission to the Victoria Hospital for children he was found to have an abscess which had opened and was discharging at the lower part of the right lower eyelid. The right side of the face was fuller than the left. The skin of the lower eyelid and cheek was red and hot. Pressure over the cheek caused pus to flow from the opening. An examination of the mouth showed that a small quantity of pus exuded from the aveolar border of the upper jaw. A probe passed under the sinus in the cheek showed the upper part of the superior maxilla to be bare. Forceps had been used at birth and after delivery; both sides of the face were found badly bruised, the right more than the left. When one month old the child had difficulty in closing his mouth and refused to nurse. At this time the redness and swelling appeared beneath the right eye, which finally culminated in an abscess. The child had not been exposed to any infectious disease. He was operated upon and died after ten days. The author calls attention to the extreme rarity of this condition in children. Only one case was found recorded in detail. This was a child aged two weeks. In this case, and in another undescribed case referred to by the same author, the child was born with the face toward the pubes and the condition was attributed to the pressure induced by the arch of the pubic bone against the face during labor. Watson refers to two cases in very young children which were supposed to be caused by pressure during labor.

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ORIGINAL COMMUNICATIONS.

THE USE AND ABUSE OF MIDWIFERY FORCEPS.*

B.—R. MILNE MURRAY, M.A., M.B., F.R.C.P.Edin.,

Lecturer on Midwifery and Diseases of Women, Edinburgh School of Medicine, Assistant Physician, Royal Maternity Hospital.

SURGICAL MIDWIFERY.

I think I am right in stating that the selection of this subject for discussion arose out of the able and trenchant address delivered by the former President of this Section at the Montreal meeting last year. In that address Dr. Sinclair drew attention to what he considered the close relation between many gynæcological troubles and the over-frequent and injudicious use of the forceps.

The address contained much to give the reader pause, but its general tenor may be gathered from a brief quotation from it which I venture to make: "Midwifery has during the same period," says Dr. Sinclair, "become also largely surgical—too surgical—and a thesis which I shall endeavor to maintain to-day is, that gynæcology has become so largely surgical as the direct result of surgical interference in midwifery practice; the accouchers are the providers of materials for the gynæcologists. . . . The term surgical is employed here with almost exclusive reference to the midwifery forceps."

I am not using too strong an expression when I say that this amounts to an indictment of the present practice of midwifery all over the world; and coming as it did from the presidential chair of this Section, it must have caused much searching of heart on the part of accouchers on both sides of the Atlantic.

But it was not only on the general practitioner that the strictures of the address reflected. If the practice of midwifery were aberrant, no small part of the blame must lie at the door of the teachers of obstetrics. If the practice were loose, the teaching must be greatly at fault.

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* Read at the recent meeting of the British Medical Association.

It could not be supposed that such a statement could be made by one in the position Dr. Sinclair occupies without due deliberation, because it directly implied that one section of those whom he was then addressing was engaged in providing employment for the others, either by reason of gross and culpable error of judgment or by direct malpractice.

If this were so, it was time to speak out. A presidential address is, like a sermon, beyond the pale of discussion, or it would have been of interest to hear what those present had to say for themselves. And so important did the question appear to those responsible for the selection of the subjects of our formal discussions, that it seemed to warrant the whole matter being opened up here. It could not be better considered than by a gathering such as this, including as it does representatives from many parts, and embracing general practitioners, specialists, and teachers.

THE VALUE OF THE FORCEPS AS A SURGICAL INSTRUMENT.

It is not, I take it, required of me, and it would be hopeless in the time at my disposal, if it were, to attempt an exhaustive account either of the proper use or of the abuse of the forceps in midwifery practice. I shall best fulfil my duty to-day by raising points for discussion, or suggesting the lines which the discussion should take, rather than by attempting any necessarily inadequate deliverance on the whole subject.

I begin by asking, "What is the special value of the forceps as a surgical instrument?" To Baudelocque is due the statement that the midwifery forceps is the most valuable surgical instrument that has ever been invented, and "with this statement," says Dr. Sinclair, "we are all more or less in agreement." I think there are few here who will cavil at my reply to the question I have just put, if I say that the special value of the forceps is that it enables us to shorten the suffering and diminish the risk of childbirth. If it is to justify the claim of Baudelocque it must accomplish these results in a sensible proportion of cases, because if it is only to be employed at rare intervals to diminish the suffering or even save the life of an occasional mother, while we should cherish it as a valuable component of our armamentarium, we would scarcely place it in the position claimed for it by Baudelocque. Apart, however, from the question of the frequency of its proper use, I may take it for granted that its value consists in the power it gives us on certain occasions of shortening the duration of labor, of diminishing the dangers of the mother, and greatly increasing the safety of the child.

But when we turn to the scope of the instrument and ask what are the indications for its use, we reach highly debatable ground. I dare say if the question were put to twenty individual members of this meeting there would be given twenty distinct answers, all more or less divergent, and some diametrically opposed. Perhaps the one side would best be represented by the answer Dr. Sinclair would give, while that of his anonymous friend, who startled him with the statement that his forceps cases amounted to 70 per cent. of his whole midwifery practice, would adequately represent the opposite; and these two, along with the other eighteen, would give one more instance of the many-sided character of the human mind!

WHEN FORCEPS SHOULD BE USED.

I shall make no attempt to analyze or classify those hypothetical answers. It will be more useful if I try to lay down a general principle which ought to guide us in seeking the indications for the use of this instrument. I think I can be sure of taking you all with me when I say that a direct indication for the use of the forceps arises whenever—and only whenever—we are assured that the danger of interference has become less than that of leaving the patient alone. So simple is this statement, that to some it may seem a mere truism, and to be scarcely worthy of deliberate enunciation. Nevertheless, I believe it is, in the case of some practitioners, just one of those pious opinions which are assented to the moment they are stated, and the moment after practically ignored.

I venture to think it is more than a mere truism, and that it ought to be kept more constantly before us and more strictly acted on than it sometimes is. For let me point out that it implies that the use of the forceps, in practically every case, is a matter of individual judgment. There is no accepted set of rules which can be applied to each emergency, and which will decide for us in each case whether we are to act or to hold our hand. It is for this reason that the question of the proper use of the forceps is often so difficult. Much more than in most surgical operations have we to consider in each case, not one, but many circumstances. If we discover an abscess, or a cancer, we deal with them at once by opening or excising them according to fixed principles, and by methods which have been determined by experiment and settled by experience. But the operation of the forceps comes under a different category. A fœtal head and an ovarian tumor cannot be dealt with on the same lines. It is sound practice to remove the latter as soon as it is detected, but the mere presence of a fœtal head in the pelvic cavity is not an adequate reason for its summary removal. There are many things to be considered, many things to be taken into account—the state of the passages, the efficiency of the pains, the condition of the child—ere we can justify any effort to supplement or supersede the processes of Nature. Each case must be decided on its merits, and in every case when the question of forceps arises, we must ask, "Is it safer to act or to wait?" We have no justification for interference until we have decided that the danger is in waiting, nor, let me add, in failing to act when we have decided that the danger is in delaying. It is this necessity for individual judgment in every case which renders the employment of the instrument a matter of grave responsibility.

PREMATURE USE OF FORCEPS.

From what I have said it will follow that a certain number of the instances of improper use or abuse of the forceps are due to errors of judgment—the instrument is employed when it should not be used, or else it is not used in cases when it is indicated. It was to the frequency with which the first error is committed that Dr. Sinclair specially devoted his address last year, and no doubt a very substantial proportion of the instances of the abuse of the forceps comes under this category. But this does not by any means represent all the cases of misuse of the forceps; for while injury is inflicted in many cases by the premature use of the instrument, and in a smaller number by undue delay in its employment, a very large part of the injury to mother and child—and thus a large part of what may be properly termed the abuse of the forceps—is due to faulty technique.

I may perhaps best put it thus: (a) The forceps are often used at the wrong times. (b) They are sometimes not used at the right times. (c) They are often badly used at both times. The danger of the forceps' operation, apart from the risk of septic infection (which, of course, is common to most operations), may be summarized thus:

1. The mother's parts may be bruised, lacerated, or otherwise injured by mechanical violence.
2. The too sudden emptying of the uterus may be followed by imperfect retraction and, consequently, dangerous hemorrhage.
3. The fœtal head may be unduly compressed, lacerated, or otherwise damaged.

Now, in spite of all that has been done and is being done to diminish the risk and suffering of disease by anæsthesia, antiseptics, and other means, there seems a lingering doubt in the minds of some as to whether the abolition of the pain and suffering of labor would be an unmixed blessing. This seems to me to be a survival of the same barbarous instinct which prompted the so-called religious objection to the use of chloroform in labor, and is as unworthy of respect. For myself I have no such scruple, and were I able to do so with safety I should gladly abolish every pain after the first, and reduce the duration of labor to a bare minimum. But unfortunately this is not practicable. Physiological labor consists of a series of phenomena which require time for their development; and a grave abuse of the forceps consists in their employment in such a way as to interfere with the proper sequence of the normal physiological events.

FORCEPS IN UNDILATED OS.

This leads me to consider a group of cases in which we have the most striking illustration of the use of the forceps at the wrong time, namely, their application through an undilated os. There is, no doubt, a small minority of cases in which such an application is, for special reasons, justified and even demanded; but these are few and far between, and the disastrous results following their use in many of these cases are only too familiar to obstetricians. The statistics of this practice, obtained from the results of the Rotunda Hospital, under Dr. Johnston's Mastership, are in themselves a commentary on the dangers both to mother and child.

SPASMODIC RIGIDITY.

I would draw particular attention to the dangers involved, because I feel sure there is a group of cases falling under the term "undilated os" which is not so generally recognized as it should be, and the non-recognition of which seems to me to account for more damage to the mother's parts than we may at first admit to be likely. Every one is familiar with, and no one can well overlook, the ordinary form of undilated os, in which, either from early rupture of membranes, narrow pelvis, mal-presentation, or other cause, the os remains for hours in a half-dilated state. If, in spite of such a condition, the use of forceps is for some reason, good or bad, decided on, the operator recognizes the condition, calculates the risk, and, it is to be hoped, does what he can to minimize or obviate that risk to the utmost of his power by careful management. But there is another form of undilated os quite as unsuitable for the forceps operation as this, and which is the more dangerous because it is not always recognized. I am convinced it accounts for the occurrence of by far the larger number of cases of lacerated cervix. For while the delivery of the head through the variety of undilated cervix referred to is always a difficult and often a dangerous operation, nevertheless it can be done, and is done in many cases, given a proper instrument, the requisite skill, and abundant patience. It is not so with the variety I now wish to consider. Here is the sort of case I refer to: A woman has been in labor for some hours; probably the membranes have ruptured early, and dilatation is slow. Opium possibly has been given, or chloroform has been used, and after a time an examination, made in the absence of a pain, shows the os soft, flabby, and apparently nearly the size of the child's head. The head is probably well down in the cavity, and lying fairly well for the application. Here, then, seems a suitable case—a long labor, a tired woman, perhaps, if I may whisper it, a wearied accoucher, and most important of all, an os, if not dilated, at least dilatable. A little more chloroform is given, and then without any difficulty the forceps are slipped over the head and, of course, inside the os. By this time a uterine pain, excited by the manipulation, begins, and if the os is now examined it will be found spasmodically contracted round the head and forceps, and not more than half its former apparent size. Unfortunately, it sometimes happens that an examination is not made, and traction is commenced with results which do not require description here. The case is one of partially dilated, spasmodically rigid os, and may be described in physiological language as an example of uterine inco-ordination, or, popularly, as a uterine stammer. The os during an interval is soft, flabby, and easily stretched; during a pain it becomes tense, hard, and greatly narrowed.

I have several times been asked to see patients is consultation› where the attendant thinking the os was fully dilated, had ruptured the membranes, and found after uterine pains had begun again, that the os was less than two-thirds dilated. The same mistake had arisen—the os was examined in the intervals, and its spasmodic rigidity overlooked. To use the forceps here and to treat the case as if the os were dilated or dilatable is one of the gravest and, I fear, only too common examples of their abuse. On account of the tension and thinness of its edge, very slight efforts of traction will tear the cervix into the vaginal roof, inflicting frightful injury.

SECONDARY INERTIA.

I need not detain you by dwelling on the dangers of the application of the forceps to a woman in a condition of secondary inertia, and to the almost inevitable results in the shape of deficient retraction and hemorrhage in the third stage and post partum. And I do not doubt that other instances of the use of the instrument at the wrong time will be sufficiently emphasized by one or other of those who follow me in this discussion.

FAILURE TO USE FORCEPS WHEN NECESSARY.

Let me then say a word about the second point I raised, namely, that the forceps are sometimes not used at the right time. Whatever material damage or injury may be inflicted by the injudicious use of the forceps, there is one injury—once common enough, and now rarely to be seen—namely, vesico-vaginal fistula, whose disappearance is in great measure a result of the earlier, perhaps often premature, application of the forceps. No more striking instance of the beneficent use of the forceps can be adduced than that which we may point to in the almost total disappearance of this frightful injury. Most men nowadays take care that the long, tedious, grinding pressure of an ill-placed head, on a contracted or otherwise modified pelvis, is never allowed to occur, and the consequent necrosis and sloughing are thus largely avoided.

But I cannot help thinking that the reasonable reaction which has shown itself in many schools against the too frequent use of the forceps may in some measure diminish our vigilance in this matter, and that from an unwillingness to interfere we may unwittingly render possible an undue amount of maternal bruising and other damage. I could not find a better illustration of what I refer to than I do in the Rotunda Report for 1896–97. Here there is a record of 56 forceps cases, and in the summary of the indications of their use I find that 45 were treated by forceps on account of "delay in the second stage or over four hours." In the absence of further statistical detail I cannot express an opinion as to whether the forceps in these 45 cases were rightly or wrongly employed, whether it might not have been better to have interfered sooner than the fourth hour in some cases, or to have waited even longer still in others before artificially finishing the labor. The report simply states that "Forceps were applied in cases of delay of four hours in the second stage with material benefit to the mother and greater safety to the child, and we consider the results obtained, more particularly as regards the life of the child, amply justify us in not delaying longer."

The objection I would make to a statement such as this in an authoritative report is, that it gives us an impression that the element of time is the primary determining factor. I am quite at a loss to understand why, for example, we should wait in every case for four hours after the os is dilated and when the pains are not advancing the head. To my mind the latter point is the crux. If I could assure myself that after dilatation of the os the advance of the head was blocked—either by the size of the head, the resistance of the canal, or the feebleness of the pains—I should not wait a moment before using the forceps. I could not assure myself that this was the case without waiting a certain time, but I am perfectly certain that in many cases I should reach absolute assurance long before four hours had elapsed. If I am certain of this in one hour, why should I wait three more? What do I gain, and what does the patient gain, by my watching her enduring two or three hours of further misery and suffering? If the head is in the brim and shows signs of descending, I shall wait till it descends, because the operation of forceps is easier in proportion to its descent. If the head is in the oblique diameter and shows signs of rotating, I shall certainly wait till the rotation is complete, because the application of forceps is simplest and the delivery safest when the head is in the antero-posterior. But if neither of these things occurs from fault or failure of any factor, I see nothing to be gained, but much to be lost in waiting after I am certain that progress is at an end. The danger of interference is less than the danger of waiting.

There are many wise obstetric aphorisms, but none wiser than this: "Wait till you see what Nature can effect—not what she can endure." No one need imagine that this can be read as an apology of meddlesome midwifery. As long as Nature is preparing or opening the passages, and moulding or advancing the passenger, she is doing what she can do better than any of us, but she sometimes fails, and it is because she fails that Baudelocque's commendation of the forceps is "one with which we are all more or less in agreement," because by its means we have saved women hundreds and thousands of weary hours of useless suffering and preserved countless children alive. Let it not be supposed that I am traversing the practice of the Rotunda Hospital. The report at my disposal gives me no facts on which I could base my criticism; what I suggest is that the mode of stating the grounds of interference is essentially misleading, and I wish to enter my protest against the idea which it conveys, that the time element alone is a proper basis for such interference.

If I am asked when, under such conditions, I should apply forceps, I should make a reply in words which I first heard from the lips of my respected teacher and your distinguished President, and which I have never forgotten: "When the passages are in a fit state and Nature fails to advance the head, then I should apply the forceps."

FORCEPS IN OCCIPITO-POSTERIOR POSITIONS.

I must leave to others the indication of other cases in which the forceps might be used with advantage when their use is avoided or delayed. But I should like to direct attention to one group of cases in which the forceps might be employed with greater discrimination than is, I think, sometimes used. I refer to occipito-posterior positions of the vertex. We all know that in such cases, when flexion is well marked and when the pains are efficient, descent and forward rotation is the most usual ending, while in those cases in which flexion is deficient, descent is difficult and backward rotation the rule. My own view and teaching in the matter is this—that when flexion is deficient, as shown by the ease with which the bregma can be reached, the sooner forceps are applied after the os is dilated the better. In view of the practice generally recommended in regard to these cases this may seem heroic if not rash. But I confess I have little faith in the attempt at manual rotation; my experience of it in these cases is that it is futile, and on theoretical grounds I have never understood how it can be anything else. When it succeeds it seems to me almost certain that rotation would have occurred without it. For if natural rotation is the result of the action of the pelvic floor on the advancing head, I cannot understand how twisting the head in the canal can develop it when it is defective. If in rotating the head we brought it to bear more firmly on the floor, I could understand that a sound principle was involved, but we can scarcely claim that we do this. Everything, however, depends on the forceps employed. With the axis-traction forceps, more especially if slightly modified, we can develop flexion and secure rotation in nine out of ten cases, and in the tenth would probably have done so too had we used them soon enough.

FAULTY TECHNIQUE.

Finally, the forceps are abused by being badly used; not only when they should not be used, but also in cases in which their use is indicated. Now I am convinced that to these faults of technique, as I may call them, are due not only the greater number of the minor errors in the use of the forceps, but likewise some of the gravest examples of maternal and fœtal injury. I venture to refer to a few of them—some of those I regard as of most importance.

The first fault of technique to which I ask attention is one which is still too common. It consists in not employing what is indubitably the most efficient instrument. If a workman chooses for his purpose a tool which is less efficient than some other which is available, he may execute the work, but he does so either less perfectly than he might, or does so with an unnecessary expenditure of time and energy. So if the problem to be solved in the forceps operation is to extract the child with the expenditure of as little force as possible, we fail in that problem if we do not use the instrument which enables us to economize our force to the greatest extent. That this instrument is one constructed on the principles first laid down by the late Professor Tarnier has been long taught by every member of the school to which I belong. Professor Simpson has illustrated the value of the axis-traction forceps by saying that a man who has once used them would as soon think of reverting to the old forceps as a man who could keep a carriage would think of conducting his practice on foot.

When I was a boy I was more or less familiar experimentally and otherwise with a piece of mechanism, the prototype of the modern bicycle, appropriately and familiarly known as a "boneshaker." It was somewhat substantially, even massively, constructed of wood and iron. It possessed wheels, a backbone, a saddle, and a steering bar, just like its descendant, and among other things it had a tire which, if it had no other advantages, was at least durable and puncture proof. It certainly was a very different affair from the machine on which we see young and old, rich and poor, gliding along noiselessly and almost without effort at five to fifteen miles an hour. Now I should be inclined to say that a man is just as likely to revert to the old instrument after having used the axis-traction forceps as he would be to give up a good bicycle of 1898 for a boneshaker of the early Seventies. The main argument advanced in favor of the older forceps is its simplicity, and this argument is quite as much in favor of the boneshaker, for its construction was complicated neither by ball-bearings, spring saddles, nor pneumatic tires. But I have heard a practitioner declare that he could do as much with the old forceps as another could with the axis-traction forceps. I would as soon believe that the average man on the primitive bicycle I have referred to could ride as far or as fast, and with as little fatigue, as one on a modern machine.

THE AXIS-TRACTION FORCEPS.

To object to the instrument that it is complicated is an argument with which, I confess, I have little patience. That a couple of rods and a handle bar should present a serious difficulty to the acceptance of an immensely more efficient instrument is an argument scarcely worthy of a grown man.

I may take it that practically it is universally admitted that axis-traction is of great advantage at the brim, and with regard to its efficiency there I need not detain you. The pleasure I have of knowing that many of those I address constantly employ and strongly advocate these instruments is saddened by the knowledge that there are some who listen to me who are not yet convinced of their efficiency save at the brim. But I am certain of this, that those who have systematically used the instrument in all their forceps cases, will bear me out that for once they have proved their efficiency at the brim, they have done so ten times in the cavity and twenty times at the outlet. They will speak of the security of the grasp, the absence of dangerous compression, the ease of extraction, the delicacy with which the proper axis can be ascertained and followed, and the safety to the soft parts which it insures. They will, perhaps, most of all, commend the instrument on account of the facility with which it produces or permits of the production of rotation.

Compare this with the deliverance on the axis-traction forceps I find in one of the recent text-books on Midwifery. "The use of the axis-traction forceps is practically confined," says the author, "to pulling the head through a contracted brim; when the head has passed into the cavity it is no better than the ordinary kind. It is only of use, therefore, to pull the head through a somewhat smaller brim than can be passed by the latter. In cases where the difficulty is so great as this, it is in all probability better to turn." This reduces Tarnier's work to a vanishing quantity. And again, in another part of the same book, I find, "they all (that is, anti-traction forceps), however, have the same disadvantage of compressing the head during their application."

I confess it is difficult for one who has used these forceps for nearly twenty years to treat such comments seriously. As to the question of compression, I do not believe that the compression of the head by the axis-traction forceps is as much as 10 per cent. of that inflicted by the ordinary forceps. Any one can prove to himself that after the blades are in position and in contact with the head, one-half turn of the screw is all that is necessary to keep them in position. Not infrequently the screw slips out of its catch during traction, and I have delivered many cases in which the screw was off all the time the forceps were in the cavity. When the head is in the cavity, the pressure of the walls, the inward pull of the rods, and the cephalic curve of the blades keep the latter in perfect security on the head. With the ordinary forceps, it is obvious that the harder you pull the more you grip the handles—not in order to hold the head, but to prevent the handles from slipping from your grasp; nevertheless, the head bears the brunt of the pressure.

As to the efficiency of the instrument in the cavity I have said all that I need say, and as to removing the forceps when the head has reached the perineum, for myself I should as soon think of leaving the patient in the third stage of labor as of removing the forceps before complete delivery of the head. I am prepared to maintain that in axis-traction forceps, properly constructed and properly used, we have not only a means of accomplishing delivery in cases of delay with safety and success, but by their means we are able to avoid laceration of the pelvic floor in cases in which this would unavoidably occur if left to Nature. For I have long held that deep anæsthesia, combined with the skilful use of the axis-traction forceps, is the best treatment for rigid perineum.

THE GUIDING PRINCIPLE IN APPLYING THE BLADES.

The second fault of technique to which I shall direct attention is in connection with the application of the blades. Of course when the head is at the outlet and fully rotated, the application can only be faulty from gross carelessness; but when the head is in the cavity and still in the oblique diameter, a very faulty application is often made. It is still largely the teaching and the practice of the British schools to apply the forceps as far as possible in relation to the pelvic transverse without reference to the position of the head. Now when the head is high in the cavity, or even low in the cavity and not rotated, I am convinced that this is wrong. The result of this practice is that we obtain a more or less oblique grasp of the head, and it follows that, since the blades tend to rest on somewhat sharply curved portions of the head, one or other inclines to slip off during application, and the difficulty of locking is notorious. Equally notorious is that the vicious practice of trying to rectify this by twisting the blades into position is a source of danger to mother and child. But apart from this, after locking is effected and traction begun, one of two things follows:

1. The head as it descends rotates, and in doing so throws the forceps into the opposite oblique. This usually happens with axis-traction forceps when rotation is favored. If delivery is effected without removing and adjusting the forceps, extensive damage to the outlet will follow.

2. The head descends without rotating, and engages the outlet in the oblique. This often happens with the older forceps, and is even more disastrous than the former.

I venture to think that the practice of the French school is much sounder. The forceps should be applied to the biparietal diameter of the child's head wherever situated, and then, as the head descends, rotation will bring the blades into the transverse diameter just as the head enters the antero-posterior, and the head, forceps and pelvis will present proper relations at the outlet I feel sure that extensive damage to the lower part of the vaginal canal—especially internal laceration of the perineum—is often caused by oblique position of the head or of the forceps at the outlet. The application of the forceps to the side of the head may require more care than the other methods, but we are there to take what care is necessary for the benefit of the patient.

I need not dwell on the objectionable results of jerky, irregular traction. A uterine pain begins almost imperceptibly and increases in intensity by fine gradations. So should an effort of traction. Only by this can we bring the head and canal into proper relation, and only by this can we develop rotation and minimize the danger of pressure.

THE MODE OF TRACTION.

Every year I become more and more convinced of the advantages the axis-traction forceps give us in protecting the perineum from injury caused by undue delay, or laceration caused by faulty mechanism. The procedure I adopt is as follows: As soon as the vault touches the floor the forceps are held between the finger and thumb of the right hand, while the left is placed over the fundus. I may say at once that I never in any circumstances "support the perineum." The left hand enables me to control the retraction, to detect the beginning of a pain, and often to aid the action of the forceps by efficient pressure. I press the chloroform as far as will keep the patient quite still. Extraction is effected by gentle pressure on the traction bar, the rods and shanks being kept just touching. With certain exceptions I act as far as possible only with a pain, taking care always that traction is effected in such a way as to maintain the advance of the suboccipito-bregmatic diameter. In this lies the secret of success, for by means of these forceps we can restore or maintain the relation of this diameter to the outlet—a relation which is often disturbed by peculiarities of the pelvis, and more often by alteration in shape of the head, caused by moulding or swelling of the scalp, associated with long and difficult labor.

There is one group of cases, however, which form a marked exception to the rule of extracting with a pain. Not infrequently we find in elderly primiparæ that every uterine pain, when the head is low, is accompanied by a spasmodic action of the muscles of the floor, which for the time narrows the vulvar orifice and throws the perineum into a state of tense rigidity. It is in cases of this type that we find instances of perineal laceration. In such a case I deepen the anæsthesia and carefully avoid traction, save in the intervals of pains. Delivery is simple and easy thus, for the orifice is often wide enough when not spasmodically contracted. This is another instance of inco-ordination, and must be treated in this special way. Without forceps such cases will continue in labor for hours, and as the spasm only passes off when the pains are checked by chloroform, this alone is not enough.

CONCLUSION.

In conclusion, let me say that while arranging these all-too-inadequate thoughts I was painfully conscious how much better it could have been done by many of those whom I am now addressing. But I feel sure that no one whom I address could feel a keener sense of responsibility in the task imposed on me than I have done. If I have said more or less than I should have said, that will be rectified by what will be said after me. But one thing I trust will be made plain to all that hear what is to be said to-day, or who will read it afterwards, and that is that the use of the midwifery forceps is a matter of grave responsibility. That their improper and unskilful use does grievous injury has been made plain, that in appropriate and in skilled hands they may serve a beneficent purpose of the highest order is not less certain. Whether the forceps are to be an engine of disease and death, or a means of protection alike to mother and child, will depend upon whether they are used with a seeing eye and an understanding heart—upon whether the obstetrician is prepared to put aside all adventitious considerations, "the uneasiness of the gossips"—even the demands of the patient, most of all his own convenience, and interfere when, and only when, he has deliberately assured himself that the risk of interference is less than the danger of waiting. If this principle is unswervingly followed and carried out with reasonable skill, Baudelocque's commendation will still hold good. and the forceps will maintain their high place among the products of the ingenuity of man.

ACUTE APPENDICITIS IN CHILDREN, WITH REPORT OF CASES AND REMARKS.*

BY EDWARD McGUIRE, M. D.,
Richmond, Va.,
Professor of Gynæcology, University College of Medicine, Richmond, Va.; Gynæcologist Virginia Hospital, etc.

It has fallen to my lot to see a number of cases of appendicitis in children in the past few years. Some were of interest, which I will report briefly:

Case 1st.—O. W. (boy), age 7. Saw him 18 hours after the first symptoms of pain. The boy stated that he had been injured in the abdomen while at play the preceding day. Temperature 102 degrees. General abdominal tenderness, more marked on right side. Pain in the epigastric region. These symptoms went on until the eighth day. Abdominal section revealed an abscess adherent posteriorly. The abscess was opened and drained through the loins, and the abdominal wound closed. The appendix was not removed, and recovery was uninterrupted.

Case 2d.—P. C. (girl), age 4. Saw her a few hours after the commencement of the attack. Her mother had given her a purgative, which I repeated, thinking the attack was due to indigestion from imprudence in eating fruit. Pain was in the epigastric region. There was no tenderness or nausea. The next morning a tenderness was marked in the right iliac region. Increased rigidity on that side. The pain throughout the attack was referred to the epigastrium. Diagnosis of appendicitis made, and operative interference was suggested and refused. The symptoms continued with exacerbation until the ninth day, when the parents saw the child would die unless something was done. They wished another consultant; he opposed the operation, saying the child would die either way. At last consent was given, and the operation revealed an adherent abscess, which was opened and drained. The appendix was not removed. Recovery was uninterrupted, except an acute nephritis, which lasted a week; the result, perhaps, of septic absorption. There was no recurrence of trouble after the operation. At the time of the operation the temperature was normal.

Case 3d.—W. C. (boy), of North Carolina, age 8. Fifteen days had elapsed since commencement of attack. While he was on his way to the hospital for operation his accompanying physician thought he would die before he reached Richmond. When I saw him, on his admission to the Virginia Hospital, his pulse was about 140, and feeble; incessantly gulping up dark fluid; face pinched and drawn; abdomen very distended; obstruction complete; every indication of peritoneal sepsis. Section revealed a large abscess, filling up the pelvis and reaching up to the umbilicus, covered with matted coils of intestine and septic peritonitis. Realizing there was no chance to enucleate the abscess wall, I carefully and gently tried to find a point adherent to the abdominal parietes. In doing so the abscess ruptured. I then attempted to enucleate it, which was most difficult, requiring extensive resection of the gangrenous bowel. The child never reacted, but died five hours later. I considered this case hopeless from the beginning, and so informed his physician before the operation.

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* Read before Medical Society of Virginia, September 1st, 1898.

Case 4th.—C. S. (girl), age 8. Commencement of attack five days previous to entrance in the hospital. When I saw her she was in a profound septic condition; pulse about 140; very feeble; face pinched and drawn; abdomen enormously distended; complete obstruction. Section disclosed diffused septic peritonitis; intestines removed, wiped and washed thoroughly; necrotic appendix removed and thoroughly drained, extending in different directions through the abdominal cavity. She died the next day.

Case 5th.—F. S. (girl), age 5. Had three well marked attacks of appendicitis, one attack lasting ten days before the symptoms subsided. An inflammatory mass distinctly felt in the right iliac region. Symptoms never acute, but section about ten days after the last attack revealed an inflamed appendix, somewhat thickened with adhesions. Recovery rapid and uninterrupted.

Case 6th.—E. R. (boy), age 9. Brought to the Virginia Hospital with the history of the attack commencing five days previous. General condition good. Temperature 102 degrees. Some distension, and marked tenderness in right iliac region. Mass distinctly felt. Operated on one hour later; found a necrotic appendix surrounded by a small abscess, containing two ounces of pus. Adhesions were bad. Removed about three inches of the omentum and the necrotic appendix broke up. The adhesions were drained, and recovery uninterrupted.

Case 7.—Boy, age 5, I report because of the obscure symptoms, but it was not my case. His physician, who had left the city, had seen him the two preceding days, without arriving at a diagnosis. I was called in during his absence. The child had been taken sick on Thursday. I saw him the following Saturday evening, and, knowing nothing about the case, I examined him very carefully. His physician—a very skilful one—told his parents that he thought it an attack of acute gastritis. The child was vomiting incessantly; temperature 103 degrees; delirious; face very much flushed; tongue red and dry. He had never complained of any pain; bowels had moved regularly. I examined his abdomen most carefully. There was no muscular rigidity or swelling. The appendix could be pushed backwards against the spine without eliciting any discomfort. There was no evidence of any abdominal lesion. I was inclined to think the condition was of cerebral origin. His physician returned on Monday and took charge of the case. On Wednesday the first symptoms of appendicitis developed. The surgeon told me he found a gangrenous appendix surrounded by a small abscess. The child recovered.

Case 8th.—H. M. (boy), age 10. Had been sick about a week when he entered the hospital. His temperature had been high until the day before entering the hospital. At the time of the operation it was normal; abdomen distended; large mass in the right iliac region. Operation revealed a large abscess attached to the abdominal wall, which was drained. Appendix was not removed. Recovery uninterrupted.

Case 9th.—S. P. (boy), age 11. Saw him shortly after the attack commenced. His mother had already made a diagnosis. The case was a typical one; fever reaching only once as high as 103 degrees. None of the symptoms were warning. After 24 hours I advised operative interference, which was refused. In 48 hours the boy was convalescent. This is not the only experience of this character I have had. It has happened to me a good many times.

Appendicitis in children, before the age of four years, is very rare. One case so young as seven weeks is reported by Deeme. Matterstock and Fitz each report a case of 20 months. Fowler operated successfully on one of 23 months. After the fourth year it is a very frequent occurrence through childhood, but especially so after the 10th year. Of 104 cases, three were under three years, 47 between the fourth and ninth years, and 54 between the 10th and 14th years.

The influence of sex on appendicitis holds good in children as in adult life. Of 101 collected cases under 15 years, 72 were males and 29 females. Fowler states, from his experience of all cases seen, the proportion of males and females was about the same. The natural death rate in children, from appendicitis, is higher than in the adult, and varies, according to different authors, from 25 to 45 per cent. I am sure these statistics are too high. A great many cases that end in resolution are overlooked; or, if diagnosticated, are called acute indigestion, colic, "bilious attack," etc. This error in diagnosis was especially frequent previous to the last five years. I am sure I have made this mistake in the past. In the incipiency the symptoms are identical with those of acute indigestion, perhaps so for the first 12 or 24 hours, and we are all aware of the magnitude, the variety, and the numerous symptoms this little condition may produce. That the symptoms are ephemeral in character is an important point in the diagnosis.

Holt, in his work on children, states that of 112 cases there were 62 recoveries and 50 deaths—a mortality of 45 per cent. In 43 fatal cases, nearly all died of general peritonitis. Six died in the first three days, 19 from the fourth to the seventh day, 13 in the second week, and five in the third week. He also affirms that recurrence is not so frequent in children as in adults, it being noted in only two cases of this series. The younger the child, the greater the danger.

Mattenstock reports that out of 12 patients below the age of six, 11 died Between the ages of six and ten the prognosis is more favorable—24 cases, 15 deaths.

The intensity of an individual symptom is more marked in children than in adults, but these individual symptoms are as easily misleading in some cases. This is probably due to the greater impressibility of the general and nervous systems of childhood, and to the lack of proper discriminating powers to analyze the symptoms. The physician who looks and waits for the typical symptoms of appendicitis will frequently err in his diagnosis, and he who asserts that it is always easy to diagnose it displays his ignorance and a lack of very much experience of this disease. This remark holds good in the adult, as well as the child. The case reported as No. 7, and the following, bear out this statement.

I was called to see a case on June 9th, at 10 P. M., in consultation. The physician stated that six days previous he had been sent for, and made a diagnosis the next day of a slight attack of appendicitis; so slight were the symptoms that it was not believed by the family. In three days all the symptoms had disappeared. There was no fever, no pain, no tenderness, and the pulse was slow and normal. He thought the patient convalescent. This condition continued until the night I saw her. The first symptom that alarmed him was that the nausea returned, and the pain on the right side, located a little to right of right nipple. On examination of the abdomen I found there was no tenderness over the appendix, no lump, no rigidity, no abdominal distension, no fever, no pain, and pulse 70. There was not one local symptom of appendicitis. She complained of pain near the right nipple, intensified with respiratory movement, similar to that of pleurodynia or pleurisy. She also complained of a violent pain in the top of her head. Her facial expression was not good. Relying chiefly on the early history of the attack, I stated as my opinion that the appendix was the cause of the trouble, and advised, if she was not better in the morning, that she be removed to the hospital. The same conditions were present in the morning and at the time of the operation. I found a gangrenous appendix imbedded in a mass of infectious adhesions which were removed. When she awaked from the chloroform the pain in the chest and head had disappeared. Her whole system was saturated with the toxins, and she succumbed from suppression of the urine and sepsis.

We all know that the diagnosis in typical cases is based upon—1st, the suddenness of the attack; 2d, the presence of abdominal pain; 3d, tenderness and muscular rigidity in the right iliac region; 4th, some nausea attending or following the pain, and in a large number of cases some febrile disturbance. The first condition is applicable to nearly all abdominal troubles. The second condition—or abdominal pain—is more variable. In the majority of cases it is referred to the umbilical region, or epigastrium; afterwards it becomes more centered in the right iliac region. Pain is a very variable symptom as to its location and intensity. It may be referred to any portion of the abdominal cavity—to the chest or to the lumbar region—on account of the extensive distribution of the abdominal sympathetic system. Another reason why its location is variable is that the position of the appendix is not constant. It may lie to the inner side, to the outer side, or behind the caecum. It may be directed downward to the right iliac fossa, or upward to the right kidney behind the liver, or may extend across the abdominal cavity. I have seen these positions present in appendicitis. Pain is variable and misleading. It may be violent, or may be so slight as not to deter the child from playing. It does not indicate tha pathological conditions present. It may be intense in a case of slight catarrhal appendicitis, and absent in a gangrenous appendix. I remember seeing a case in consultation, in which a boy was skating at 11 o'clock the night before, was operated on the next morning, and a perforated appendix and an abscess holding 3 oz. of pus with extensive adhesions were found. Local tenderness in the right iliac fossa is almost a pathognomonic of appendicitis as is the rusty sputa of pneumonia. At first the area of tendency may be large, but soon becomes more centered, corresponding to McBurney's point. This is not by any means constant. It varies with the position of the appendix. I have seen it in the lumbar, or epigastric region, and in one case, with a long appendix, some distance to the left of the umbilicus. Again, tenderness may be entirely absent. A case with complete gangrene of the appendix may be free from pain and tenderness, because it is dead, nerves and all.

Muscular rigidity is usually present, but it is not equally prominent in all cases. This rigidity is more marked on the right side, and, in the majority of cases, lessens or disappears in a day or so. The prominence of this symptom seems to have some relation to the proximity of the inflamed appendix to the anterior abdominal wall. Care should be taken not to mistake rigidity of the muscles for a tumor. Anæsthesia is a valuable aid, especially with children, in this examination. As it disappears in about two-thirds of the cases a tumor with or without pus accumulation is frequently found in the right iliac fossa, formed from either the plastic exudate or agglutination of the omentum and intestines. It varies in size and position.

Nausea is usually a more prominent symptom in childhood than in the adult. It is not continuous. The acuteness of nausea occurring later in the disease often marks the advent of perforation, and onset of septic peritonitis. Fever is nearly always present in the earlier stage of the disease and is higher then than later. It does not indicate the seriousness of the condition. A slight catarrhal appendicitis may produce a temperature of 104 degrees F. Again, it may be absent or subnormal in the more serious forms. I have seen cases with a gangrenous appendix, or an abscess containing from a pint to nearly a quart of pus, with little or no temperature. The pulse is a far better indication of the gravity of the disease than the temperature, though both may be normal in a gangrenous appendix, when the toxins are not escaping into the system. The facial expression in the milder cases, and even in many of those when localized suppuration occurs, is not marked, on account of a protective peritonitis. The toxins are not, or, if so, are slowly absorbed. In the severe conditions when there is a gangrenous appendix, and the toxins are being rapidly formed and absorbed, as in the fulminating form with septic peritonitis, the face is often the greatest indication of the condition. There is one potent fact, and it should have great weight in dealing with the diagnosis in children. It is that an acute peritonitis very rarely ever occurs in childhood from any other cause than appendicitis. The same holds good in the adult male. It is therefore right to indite the appendix in all peritoneal inflammations, unless other determining causes are well established.

In my remarks I have considered the subject briefly, and have omitted many of the minor symptoms of appendicitis; nor have I grouped those belonging to the different forms and complications. They are numerous and confusing. I have considered it from a clinical experience, and have endeavored to show that, while a large majority of cases are typical and easy of diagnosis, there are many that are atypical and perplexing to the diagnostician. What is still more important is that in a large number of cases no one symptom, or aggregation of symptoms, nor is there any amount of clinical experience or ability as a diagnostician, that will enable a surgeon to foretell the consequences or to recognize the true pathological conditions in the case of appendicitis. It is the recognition of this fact that has induced so many surgeons to endorse early surgical interference in all cases, as soon as the diagnosis is made, or even in the obscure ones, where the appendix is indited on suspicion only. Medical authors on children are adopting this view.

Rotch, in his work on pediatrics, says that appendicitis is essentially a surgical disease, and is one which should be placed immediately in the hands of one skilled in abdominal surgery. Again, he says that the prognosis is very favorable if operative interference is instituted early.

Hare states that the case should be viewed as one likely to become surgical at short notice, and as soon as the diagnosis ot progressive appendicitis is assured the abdomen should be opened; that a case not well on the road to recovery at the end of the first day should be deemed progressive and subjected to operative interference. At the same time he recognizes that septic peritonitis may ensue from a very virulent infection, before there is either perforation of the appendix or rupture of the abscess cavity.

Holt, in his book on diseases of children, claims that in the majority of cases it is a surgical disease, and that many cases had been needlessly sacrificed because surgical interference has been delayed.

We know, in cases treated medically, the mortality depends on the virulence of the infection. In those treated surgically, it is in proportion to the delay in instituting operative interference. We are aware that a great many mild cases recover, but also know that a large number are lost, both with and without the operation, that were mild cases in the beginning. Simple cases have a low death rate, medically treated, but a still less one, surgically. Grave cases have a high death rate, medically, and a small one, surgically, if operation is not delayed. Taking this view of the subject, it is true that we may operate in some cases unnecessarily, but it is far better to do this than to operate unsuccessfully. A comparison of statistics, as regards the percentage of recoveries by the two methods, is unfair, because a large number of cases referred to the surgeon are grave cases that have been treated medically with failure, and, as a last resort, seek surgical interference. A gain, the percentage of successes reported by individual surgeons is misleading. The surgeon may refuse to operate in bad cases, which he thinks are likely to die, because he does not wish to injure his statistics. I have heard of this being done. The surgeon who operates on a grave case that is one of the perforative and suppurative variety, with bad adhesions, and saves the life of a patient, deserves more credit than the operator who saves 19 out of 20 simple cases. The operation may be one of the simplest in surgery, or may be the most difficult. The pathological conditions to be met can never be foretold. It is impossible to impress upon the laity this fact, as well as upon a great many physicians. Again, a surgeon may refuse to operate in a desperate case that he considers has been seen too late *pro bono publico;* it certainly has a great weight with the laity, and is likely to induce the physician, who may have been prejudiced against operative interference, to refer his case earlier to the surgeon. Perhaps more tives in the end may be saved by refusing to operate in such a condition, but I could never bring myself to adopt this idea, as some of the most desperate cases recover after operation. I remember a case lately that was brought to the Virginia Hospital in such a condition—complete obstruction for two days; enormously distended abdomen; pulse rate high; with an incessant gulping vomit; every indication, I thought, of septic peritonitis. Still, this patient recovered after the operation, though it required intravenous saline infusions to keep him alive during the operation.

The operative technique in children differs in no essentials from that in adults and therefore will not be considered. Each case must be dealt with individually, as the experience of the surgeon dictates, there scarcely being any two cases alike. Time is an important element in dealing with these cases in children, more so than in adults, a prolonged operation greatly increasing the danger. In adherent supperative cases I do not think it necessary to attempt to remove the appendix, unless it is found floating or projecting free into the abscess cavity. Otherwise the removal, or the attempt, may break down the barrier Nature has so wonderfully provided. I have seen a large number of such cases and have found no after trouble resulting from this method. It is remarkable to see what Nature will do in removing the exudate that has been thrown out in these localized, suppurating and plastic cases.

A short time ago I operated on a man for acute intestinal obstruction successfully. He had had suppurative appendicitis about a year previous and had been operated on by one of the young graduates of the University College of Medicine, Dr. Davis. The doctor had only a storekeeper to give chloroform and aid him in the operation. A pocket case constituted his instruments. On opening the abdomen I found a small band about an eighth of an inch wide across the ileum, about three feet above the ilic-cocal valve. On examining the site of the old abscess I was struck with the small amount of adhesions present, which was easily broken up.

MICROSCOPICAL DIAGNOSIS OF TYPHOID FEVER.*

BY H. STUART MacLEAN, M. D.,
Lecturer on Bacteriology, University College of Medicine, Bacteriologist to Virginia Hospital, Richmond, Va., etc.

The diagnosis of typhoid fever in obscure cases can often be confirmed by the use of the microscope. A positive diagnosis can be made by bacteriological examination of the stools, in which the typhoid bacilli will always be found. Unfortunately this method has not become generally used because of the time and labor as well as the variety of appliances necessary. Of late, however, the process has been simplified by the use of certain culture media upon which no bacteria but the typhoid and colon bacilla will grow. Elsner's method consists in the use of a mixture of gelatin, potato juice and iodide of potash, acid in reaction from the acids normally present in the potato. Upon this and other similar substances the development of the ordinary liquifying saprophytes does not occur. and a process which formerly took days of investigation and a large array of apparatus, may now be done in much less time and with a very simple outfit.

The bacilli occur in the urine in about 25 per cent. of the cases, hence examination of the urine is apt to be negative. The infected urine usually contains albumen, although in a few cases it has not been present. Late in the disease the bacilli are apt to appear in great numbers. The importance of this observation lies in the necessity for the disinfection of the urine.

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*Read at the meeting of the Medical Society of Virginia, Virginia Beach, August 31, 1898.

A most valuable confirmatory test which is very seldom used is examination of the blood Cabot, (†) in speaking of typhoid fever says, "There are few diseases (outside of those known as diseases of the blood itself), in which the blood count is so often of value in diagnosis. The diagnosis of typhoid fever is to be made by exclusion—exclusion of other causes of fever and of local inflammatory processes in particular"—"almost all local inflammatory processes have leucocytosis while typhoid (uncomplicated) does not." In two cases which clinically appeared to be typhoid blood counts showed marked and persistent leucocytosis, and further developments proved them to be cases of abscess of the liver. This forcibly illustrates the value of blood examination for any deep-seated suppuration. In other cases the blood count has rightly differentiated between typhoid and appendicitis. Late in the disease various complications, such as otitis media, perforation, or abscess, will lessen the value of this symptom, but in the early stages the absence of leucocytosis is strong confirmation of a diagnosis of typhoid.

Examination of the blood is indispensable in differentiating typhoid from malaria. The absence of the parasite after careful search being both proof that the case is not malaria and strongly confirmatory of typhoid, as these are most frequently confounded.

Occasionally the typhoid bacilli may be found in the blood but so seldom as to render no assistance, and only in typical and severe cases.

Widal's reaction is the most uniformly reliable test at our command. Even this reaction has failed in some few atypical cases. Dr. W. G. Thompson names 23 as the per cent. of possible error. This is not in accordance with the experience of many writers. His high per cent. of failures is probably due to the fact that he believes the test to succeed in 12 per cent. where it ought to fail. If the test be properly applied; accurate dilution employed; and the previous history of the patient ascertained with reference to a previous attack of typhoid, such is not the case. Cabot says "Out of over 1000 cases of various diseases not typhoid, but four have been proved to clump typhoid bacilli with proper technique;" and he suggests that even this small error may be avoided by improved technique. The method of applying this test is familiar to you all, consisting in the addition of fresh or dried blood, or blood-serum from the suspected case, to a twelve to twenty-four-hour peptone bouillion culture of the typhoid bacillus, in a proportion varying from 1-10 to 1-200. Upon examining a hanging drop slide of this mixture, if the case be typhoid, it will be noticed that the bacteria gradually move more slowly and gather together in groups, ultimately forming large, compact clumps, with few or many bacilli lying between depending upon the completeness of the reaction. In a typical marked reaction there are no free bacilli, and all motion is lost, in so-called pseudo-reactions there is only partial clumping and partial loss of reaction.

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†Clinical Examination of the Blood, page 170.

The reaction may take place immediately or may be delayed for some hours. The cause of this agglutination, of the significance of which there can be no doubt, is not definitely understood. It is not due to the motility or any other vital force of the bacilli, and Widal and Sigard (‡) have demonstrated that typhoid bacilli in bouillion; destroyed by the application of a low temperature, or the addition of a small quantity of formal, may be used in place of the fresh culture. Unless the culture thus "embalmed," as Cabot calls it is an active fresh one, the results are not so reliable. This clearly proves that the action of the serum is not germicidal. It has likewise been demonstrated by applying the serum of Arabs, in whom the disease is singularly rare, to cultures of typhoid bacilli with negative results, that the agglutinizing power of the blood is not necessarily connected with either natural or acquired immunity. It seems most likely that it represents the presence of active defensive agents produced in the course of an infection.

While I do not intend to describe the process in detail, I wish to call attention to one step. In making the test I have always used the serum obtained from a small flying blister. The fresh blood method obscures the field, while the use of dried blood is inexact and the fibrin leads to false clumping. When the blister has formed sufficiently I withdraw the serum in a glass bulb, which is afterwards sealed at both ends. This bulb is made from an ordinary medicine dropper or a piece of glass tubing. The end is drawn out finely and sealed. Then at a point about one inch distant it is again drawn finely, care being taken not to occlude the lumen of the tube here. We now have a small chamber connected with the rest of the tube by a very fine opening and sealed at the distal end. When about to draw the serum the sealed end is broken off and the point is plunged into the blister, when suction is applied either directly to the glass tube or through a rubber tube, and the bulb filled. Both ends are now sealed in the flame and the bulb may be safely sent through the mail to a bacteriologist or may be kept indefinitely for the purpose of demonstration, as during its preparation it is necessarily rendered sterile. This method has recommended itself to me because it allows of accurate and simple technique and by its efficacy.

During the past year I have been called upon to apply Widal's test in 28 cases and in 27 of these the further clinical cause has substantiated the microscopic diagnosis, One case, examined upon the 12th day, did not give the characteristic reaction, and the case ran a typical typhoid course. Unfortunately I did not have opportunity for making another test. These, I might add, were almost all cases in which some doubt was entertained as to the nature of the disease.

The profession at large have in the main failed to utelize microscopical methods as aids to accurate diagnosis apparently not because of any knowledge that they are unreliable, but simply through indifference, not realizing that while the laboratory worker may work out these various methods, yet the task of applying them and proving their efficacy most assuredly lies with the practicing physician. Neither is it sufficient to show that a given test is subject to some variation or occasional error, to warrant its rejection; the physiciam should demonstrate what value there is in it and then use it as occasion arises.

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‡Paper read before the Society of Biology, Paris, February, 1897.

The general practitioner now must use the microscope as he does the thermometer and stethoscope, or have resource to some properly equipped laboratory. It is impracticable that every case be referred to a microscopist. The physician can and now must do much of it himself if he would give the patient the benefit of every means that will aid in the diagnosis or treatment of the case.

In closing let me emphasize a few points:

(1) The absence of leucocytosis is strong evidence that an existing fever is typhoid, malarial fever being excluded by absence of the plasmodium.

(2) If leucocytosis does occur in the course of an unmistakable case of typhoid it indicates some untoward complication.

(3) Both feces and urine should be carefully disinfected throughout the course of the disease. Too often directions to this effect are omitted by attending physicians.

(4) Widal's reaction is diagnostic in many cases in which, at the time, the clinical findings are obscure.

(5) The value of serum diagnosis, as well as other methods, must be determined by the practitioner who controls the case upon whom the tests may be made.

SURGERY OF THE UTERUS AND ADNEXA PER VAGINAM.*

BY WILLIAM H. WATHEN, A. M., M. D., LL. D.,

Professor of Obstetrics, Abdominal Surgery and Gynecology in the Kentucky School of Medicine; Fellow of the American Gynecological Society and of the Southern Surgical and Gynecological Society; Gynecologist to the Kentucky School of Medicine Hospital and the Louisville City Hospital, etc., etc., Louisville, Ky.

In the report of a recent discussion upon suprapubic *versus* infrapubic surgery for diseases of the uterus and its adnexa, one of our Fellows is reported to have said: "Vaginal work leaves very little room for conservatism. A man who opens the abdomen from above sees what is present and knows whether he can conserve some of the organs."

Had this statement been made by some inexperienced surgeon it would probably not have attracted my attention, for it is well known that when Ségond, Pozzi, Richelot, etc., were renowned surgeons by the suprapubic method they used similar expressions in opposition to the infrapubic work by Péan until they learned his methods, his technique, and his results; but long before the death of this distinguished surgeon they fully endorsed all that he claimed.

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*Read before the American Gynecological Society, at its thirty-third annual meeting, held in Boston, May 24-26, 1898.

The final conclusion as to the best methods of surgery in any form of disease must be the result of the combined experience of surgeons, and until there is practically a concensus of opinion as to the best methods each individual must reach his conclusions mainly from the results of his own work; hence I beg to differ from the opinion that surgery per vaginam is not conservative.

In the discussion above referred to another surgeon of broad experience is reported to have said: "Vaginal surgery is dirty from beginning to end."

If the report is correct, then this surgeon does not conform to the aseptic and antiseptic requirements in surgery per vaginam that are usual in the practice of our best surgeons in pelvic operations per vaginam.

It is true that in celiotomy we may generally learn from an examination of the diseased structures what should be removed and what should not be removed; but this is often based more upon the sense of touch than upon the sense of sight, for in many cases where the diseased conditions in the pelvis cannot be removed without endangering the life of the patient to a degree inconsistent with good surgery, they can be exposed only in a minor degree to the sense of sight. But when we are uncertain as to whether the uterine adnexa should be removed, or as to just what should be done, because of our inability to detect well-marked pathological lesions, then there is incalculably more conservatism in examining the adnexa and all the pelvic structures through an opening into Douglas' pouch. This operation is nearly devoid of danger, and every pelvic organ, including the uterus and the broad ligaments, can be examined by the sense of touch with the finger in direct contact. If there be adhesions, these may be separated, the ovaries and tubes pulled into the vagina, treated if necessary, returned to their proper place, and the vaginal incision closed with catgut.

While no careful surgeon would consent for these patients to get out of bed on the second day after such an operation, I am positive were they to do so, that this imprudence would probably not result in a single death.

Certainly no one would suggest the probability of such results in suprapubic explorations. I cannot believe that it is often wise to open the abdomen for the purpose of making explorations of this kind or for separating pelvic adhesions.

It is the concensus of opinion that the Alexander operation is never indicated where there are pelvic adhesions that will not allow the womb to come freely to its proper place, although the adnexa be otherwise normal. This objection may be removed by vaginal incision and the separation of adhesions, and, when the ligaments are drawn into the suprapubic wound, the finger introduced into Douglas' pouch can detect if the uterus is in its proper place and the degree of tension indicated. When the operation is completed the vaginal incision may be closed with catgut and no serious damage will have been inflicted. The same method, I assume, may sometimes be practiced where we prefer uniting the fundus of the uterus to the anterior abdominal wall; the adhesions, if there be any, having been separated, the uterus may be pressed firmly against the wall, and with the finger, introduced through the vaginal opening, the intestines and omentum pressed away from between the organ and the wall, so that in this position a suture may be introduced through the entire thickness of the wall into the fundus of the uterus and tied externally, with but little danger of wounding intestine or omentum.

Pelvic surgery per vaginam is probably indicated in extra-uterine pregnancy before the end of the third month in a relatively greater number of cases than in any other form of disease. During the last three years I have operated for extrauterine pregnancy per vaginam about twenty-five times, each operation being completed without complication or subsequent trouble. In most cases before rupture of the tube no capital operation could be reduced to greater simplicity or the dangers more completely removed than the operation per vaginam; and if rupture has occurred into the broad ligament, or in intraperitoneal rupture where there is not excessive hemorrhage, the mortality from the operation per vaginam would be practically *nil.* While no one would contend that the vaginal method is preferable in intraperitoneal rupture with excessive intra-abdominal hemorrhage, there are many cases where vaginal incision and clamping the bleeding tube may control the hemorrhage before shock is too profound for the abdominal method, or in profound shock may control hemorrhage until the patient may be, by stimulation and proper treatment, restored to a condition that will justify celiotomy. There are many cases where the bleeding has been so profuse that shock is too great to admit of an immediate celiotomy, and, while bleeding has ceased, there is great danger of secondary hemorrhage and death as soon as we have stimulated the patient and refilled in a degree the blood vessels. In nearly all of these cases a vaginal incision may be made without even an anesthetic, the tube caught and clamped, and danger of secondary hemorrhage averted; then we may prepare the patient by the best methods, and at the proper time open the abdomen and treat the case successfully.

Vaginal incision without the removal of the uterus, ovaries, or tubes is often preferable to the suprapubic method in many cases of accumulation of pus in the pelvis. In so-called "encysted peritonitis," where there is a large accumulation of pus surrounding the uterus, roofed in above by the agglutination of the intestines and omentum by inflammatory exudations, the patient may be cured by liberal vaginal incision and drainage. The objection to this method because of our failure to separate omental and intestinal adhesions is illogical, for these patients are relieved of nearly all symptoms by the operation, showing that continued adhesions do not cause trouble, the bowels having been evenly and regularly matted together so that gases and feces continue to pass uninterruptedly. Were these adhesions separated by the suprapubic method, the bowel would often be seriously injured, sometimes irreparably so. The dangers of soiling the peritoneum with septic pus must be seriously considered; but, granting that infection is prevented, that the adhesions are all separated without injury to any important structures, I venture the assertion that new adhesions will form and cause a more dangerous condition than in those cases where the adhesions were not disturbed in operations per vaginam.

In pelvic abscesses where the pus is confined in one locality, vaginal incision and drainage is the correct treatment. In nearly all cases of pus tubes the adhesions may be separated without injury to the bowel, the tubes brought down into the vagina and removed, leaving the uterus; but if both tubes are destroyed, or if there be extensive pelvic sinuses, then the uterus should also be removed, and this can be done more successfully and with less danger of injuring the bowel than by the suprapubic method.

This method was not so preferable until Ségmond demonstrated the superiority in operating for such conditions by bisecting the uterus. After incising and separating the vagina from the uterus, we can easily push off the bladder and make an opening into Douglas' pouch without injuring any important structures; and when the uterine arteries and lower part of the broad ligaments have been clamped, the uterus may be easily bisected, even before the adhesions of the tubes and ovaries have been touched. Each side of the uterus may then be pulled down and the adhesions separated as they present; and by this technique we may see more of the tissues with which we are dealing than we do in similar cases by the suprapubic method, where we must judge almost entirely by the sense of touch as to what structures we are separating deep down in the pelvis.

I have never understood why some celiotomists persist in asserting that there is such great danger of wounding the bowel in operating from below. Within the last four years I have operated for pelvic diseases per vaginam in from four-fifths to nine-tenths of my cases, and I have never opened a bowel or torn a ureter; and while I have had but little trouble in my suprapubic operations, I have been compelled upon several occasions to suture the bowel.

While myomectomy must be encouraged wherever the operation can be successfully performed, we can never know that this can be done until we have examined the tumor by the sense of touch. This can be done in small myomata through the vaginal incision as accurately as through the abdominal incision, and then, if the tumors cannot be enucleated and the uterus saved, they may be removed more successfully per vaginam by morcellation; or, if too great difficulty is encountered in morcellation, the vagina having been separated, the bladder dissected from the uterus, the uterine arteries controlled, the operation can be then completed quickly by opening the abdomen. In myomata too large for morcellation I complete the operation more rapidly, and my results are much better, by the combined vagino-abdominal method.

Where drainage is indicated it is more successful per vaginam, and no one can appreciate the superiority of this method over abdominal drainage until he has had extensive experience in vaginal work.

In my earlier celiotomies I irrigated and drained in many cases; in similar cases I now seldom do either and my patients convalesce more satisfactorily. It is nearly impossible to drain for any considerable time through the abdomen by either gauze, or glass or gum tubes, without causing extensive adhesions, and often persistent sinuses leading down to an infected ligature.

I am positive that sinuses are not more frequent following vaginal work. Judging from my own operations and from the numerous cases of sinuses I have seen in the practice of other abdominal surgeons, I am forced to the conclusion that there are relatively ten cases of sinuses following the suprapubic method where there is one following the vaginal method. If vaginal work is correctly performed and sutures are not used, there is seldom any case in which there is an excuse for a permanent sinus. I had a few sinuses in my earlier vaginal work, but my results are different now.

Vaginal incision and drainage as a preventive against further extension in uterine infection following labor or abortion was first suggested by Dr. Henrotin and myself at the meeting of the American Gynecological Society at Baltimore in 1895, at which time papers were read by us and by Dr. Charles Jacobs, of Brussels, discussing all kinds of surgery of the uterus and adnexa per vaginam. What was then theory is now demonstrated by facts, and we know that incision and drainage at the beginning of such infection, before the structures outside the uterus are extensively involved, does often prevent pelvic suppuration, or systemic infection by the absorption of toxins or the germs of suppuration. To be successful the incision must not be delayed.

The only argument in favor of suprapubic hysterectomy for the removal of a malignant uterus is that infected tissues outside of the uterus may then be removed and the operation made more thorough by ligating the arteries at the internal iliac or ligating the iliacs in continuity, and dissecting out infected pelvic glands. This operation cannot be performed except by an experienced surgeon, and may then require nearly two hours for its performance. A little experience will show that this method is not justifiable, for the disease will return so soon that the patient would probably have lived as long, or longer, had the uterus not been removed. Time will prove that no cancerous uterus should be removed where the disease has involved tissues outside the uterus, and in nearly all these cases th operation per vaginam is preferable and the immediate and subs quent mortality not so great. The immediate mortality should be practically *nil,* and recurrence may be less frequent if we will curette the uterus and use the galvanocautery a week before the hysterectomy and again at the time of the hysterectomy.

As it may be that the ovaries serve a purpose similar to the ductless glands it might be well not to remove them in any operation per vaginam where they are not so diseased as to endanger the health or the life of the woman.

In conclusion, a few words as to the simplicity of technique in operations per vaginam: Where we do not perform hysterectomy the operation may be more successfully and more rapidly performed by using no speculum or retractor save the fingers; and in hysterectomy retractors are seldom indicated, and I have removed large myomata by morcellation without using any. It might, however, be correct in morcellation to use a broad retractor in front to better protect the bladder and ureters.

I have been especially impressed with the simplicity and rapidity of the operation for lacerated cervix by using no retractors or specula and uniting the raw surfaces with a continuous catgut suture. The operation by this means may be completed in bilateral laceration within ten minutes and the result will be nearly perfect in every case. I believe the patients would not suffer serious injury, and the most of the operations would be successful were they allowed to get out of bed on the second day.—*Am. Jour. of Obs.*

INTERESTING FEVER CASE.

BY F W. BUTLER, M D.,
Edgefield, S. C.,
Late Acting Assistant Surgeon United States Army, Member South Carolina Medical Association, County Physician of Edgefield County.

In December of 1897, I was called to see S. Y., aged 24, family history negative, who was about three weeks advanced in continued fever, with no unfavorable symptoms, but temperature ranging between 100 and 103 degrees, red-edged tongue, with some prostration.

I ordered the regular diet and treatment in such cases—rest in bed, five grains carbonate of guiacol every four hours.

He had done finely, and I thought he was far on the road to convalescence and had stopped visiting him regularly, only having daily reports of his condition. About four weeks after my first visit, I was called very suddenly one night to see him. I reached the place and went in and found my patient propped up in bed, very weak and much prostrated and almost in a state of collapse. I asked what had occurred; if he had eaten anything or if he had been up, or what caused the then existing condition. His mother told me that during the afternoon of the night on which I had arrived, the young man had felt so much better that he had sat up in bed, and attempted to do some ciphering on a slate, and soon after this effort, he had fallen into the state in which I found him. After examination, I found him completely paralyzed on right side and utterly unable to say anything and was suffering from complete hemiplegia. For a week he had no control over his sphincters, but was able to swallow and take nourishment. I consulted my friend, Dr. Tomkins, on the case, and he said he thought the trouble was due to a rupture of one of the small arteries of the brain—most likely in the meningeal group.

I put the patient on fluid extract ergot, and attended to his excretory organs, and gave him supportive treatment. After about three weeks he began to improve, and is now able to walk around, with only moderate use of the side afflicted.

The cause ascribed to this trouble is that a certain portion of the brain is affected, most likely the lesion is found in the corpus striatum, or some of the neighboring white matter. Either destruction, compression, hyperæmia or anemia; or it might be traced to hemorrhage, thrombus or embolism.

The patient, as I have stated, is able to go about now, with incomplete use of right side and with a very imperfect power of speech.

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Laborde's Method of Resuscitation in Apparent Death from Anesthetics.—Place a piece of linen around the tip of the tongue and grasp it with the thumb and middle finger, now pull the tongue forward with a jerk and then relax it again; repeat this maneuvre twenty times a minute. A sense of resistance is felt in the tongue before there is any attempt at respiration. Traction should be continued for thirty or sixty minutes. This method is said to be useless in late stages of narcosis, though in the early stages as an adjunct it is said to be of great utility.—*Southern Practitioner.*

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St. J. B. GRAHAM, M. D. W. E. FITCH, M. D.

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GOVERNMENT, STATE OR CITY APPROPRIATIONS FOR THE STUDY OF THE CAUSE OF CERTAIN DISEASES.

By a knowledge of the cause of disease we are enabled to inaugurate laws and reforms tending to prevent such disease, besides, leading to more definite scientific knowledge, more rational treatment and advancing medicine to the realms of an exact science free from doubt and empiricism. Every city of any size maintains from the public fund hospitals for the care and treatment of disease after it is contracted, spending thus annually thousands of dollars. Hospitals are a boon and a necessity. So also is the prevention of disease just as much a crying necessity, for thus only hospital expense will be lessened and civilization be more progressive. Every city, county and state employs police, detectives, sheriffs and courts of justice to enhance the value of property, render human life safe, detect murderers, punish offenders and safely jail human parasites. But where is the city, county or state that employs and pays well sanitarians, bacteriologists and physicians to detect and punish the cold-blooded murderers that are continually at work among us? Truly, the bacteriologist is a detective of the highest order and has a vast field for his work.

Every city has a health officer, whose time is taken up with the red tape of office and the collection of statistics, and he has little or no time to devote to the special study of the cause of disease, even if he possessed the qualifications. In the marine hospital services we have such an institution, but it is too limited in its scope to accomplish the great good it is capable of doing. New York state has taken the initiative in making an appropriation for the study of tumors and cancers. Throughout the south thousands of progressive citizens, children and infants die annually of malaria, dysentery, typhoid fever and other diseases that we know very little about and cannot prevent. Yet no paid detectives are on the track of the guilty parties; they forsooth, unsought and unpunished. What do we know of so-called malaria? Is it really malaria? It is called so if it cannot be called typhoid fever, and typhoid fever is frequently called so when it is something else. Truly we are poor in our knowledge when we can only call all the various fevers we have malaria or typhoid. Certainly we do have in the tropics and semi-tropics numerous fevers that are neither malaria or typhoid, yet unclassified and they claim in our ignorance their victims, while we sit quietly by the same as with folded hands, for what we do too often is no better in its result than if we do nothing.

The department of agriculture has skilled entomologists at work on diseases of plants, spends thousands annually in the study of the weather and the study of diseases of animals in the bureau of animal industry. The Smithsonian institution spends thousands in the study of ethnology. Are these of any more vital importance than human existence? Millions are given for pensions; money is expended in every department by our progressive government, but in the direction of the study of human diseases little or nothing is done. Great appropriations are made and fleets fitted out for the discovery of the north pole, which, even if found, will be of no practical benefit to humanity at large. No appropriations are made for the study and eventual making of our own country more habitable and safe to live in and to reclaim vast areas already discovered, yet almost uninhabitable on account of the diseases endemic there. This should be a national affair and stations for the study of disease under progressive, competent men should be thicker over our country than weather bureaus or agricultural experimental stations. When this is done we will learn that so-called malaria often is not malaria and typhoid fever is not enteric fever always, and that people die by hundreds annually of fevers, the cause of which we know absolutely nothing at present.

PHYSICIANS' FEES VERSUS LAWYERS' FEES AND THE LAITY.

It is almost needless to say that life is the most precious of all our possessions, yet, strange to relate, is less valued than private and public prosperity. This may be easily seen by taking the following hypothetical case, by no means rare: A wealthy man becomes involved in a law suit; he pays thousands of dollars willingly to lawyers to protect his interests and carry the case to a successful termination. The same rich man meets with an accident and suffers a compound fracture or a depressed fracture of the skull, or falls ill of any of the numerous diseases that, without skill and science on the part of his physician, he will surely die. The medical attendant meets the indications promptly as they arise, conserves his patient's strength and vitality often at the expense of his own constitution; the patient recovers. Where is the doctor who receives a fee commensurate with that of the lawyer? A rich man commits murder; he pays a lawyer thousands to save his neck from the gallows or his cringing body from the electric chair. The lawyer succeeds and receives his fee in full; justice is defeated and the wretch goes free, often a menace to the community, an outlaw and a blot on the escutcheon of good government and a hindrance to a higher plane of civilization. A rich man and good man meets with an accident or falls ill as above related; his physician saves his life and receives most generally a paltry fee too often reduced 10 to 20 per cent. for cash.

For this state of affairs physicians have no one but themselves to blame, and while most of us do not practice our profession simply for the money there may be in it, there is no reason why good service should not be well paid for, as the physician is just as much entitled to large fees as a lawyer, yet customs and habit have never placed the physician and lawyer on an equal footing as regards monetary value of services rendered. It may easily be seen that physician's services are really and intrinsically more valuable, for what sane man is there who will not part with his property before he will with his life. Physicians in every community should have local societies, establish a fee bill and honorably live up to it. Some will do it; others will pretend to do it and accept any amount tendered them, allowing all kinds of discounts and doing underhand cut-rate work in order to try to become popular. Save the mark, with certain families and just so long as this continues the profession as a whole will suffer. It is a great pity for the medical profession that a diploma of doctor of medicine does not always carry with it a patent of firmness of character, honor and integrity. When this millenium arrives the physician can value his services for what they are worth; will need no collector; will give no discounts, and will either do charity work or receive full-rate pay. The physician will then grow rich and powerful, for with riches always comes respect and influence. He will be able to own libraries, fit himself with every conveniece for his profession in the way of instruments and appliances for his patient's welfare. The millenium may come, but none of us will live to see it.

THE DOCTOR AS ALMSGIVER.

It seems to be a very general belief that the medical fraternity does not do its share towards supporting the burden that our poorer neighbors place on the shoulders of the public. Not long since we heard one of our collecting-money-for-charity charitable persons say, "You doctors give so little for charity." It should be unnecessary to refute such an absurd statement, but since the idea has a firm root in some minds we will allow ourselves to enlarge on the theme.

We do nothing for charity? Are then all our charitable hospitals and dispensaries closed? Who are prop and mainstay of those institutions? They each and every one depend for their success and very existence on the staff of experienced surgeons and physicians, physicians who give their time, their knowledge freely for the benefit of those poor unfortunates who may come under their loving care. Pay they receive, though often grudgingly given, in the thanks of those whom they have brought from the jaws of death to blooming health. Any other remuneration is denied them, and indeed the physicians do not ask for it, but give their services gladly. All other employes and officers of such institutions expect or demand a stipend, but they on whom the success of the institution depends, whose shoulders bear the most of the burden, they, we repeat, receive nothing. We hear the same reply, "Oh, but the physicians uses the patients to practice on, and as an officer of such an institution he gets a liberal, free advertisement." The physicians of such institutions are men of ripe experience and large practice. Their days of experimenting are over; they need no practice to complete their vast stores of knowledge. They are not gaining these things by experiment, but freely give the benefit of years of study, observation and training to the poor sufferers under their care. They need no quack-like dodge of advertising. Their name is sufficient to fill their offices with patients. Instead of gaining by attendance at hospitals and other charitable institutions they lose, lose the time that is already full of care and duty and which they might employ to their own pecuniary advantage.

And the doctor gives nothing to the poor? To whom does the poor sick unfortunate go in his hour of misery? Is the doctor not always ready to give his services to the worthy poor, freely and gladly? The physician does not hesitate to answer a poor patient's call some stormy night even though tired and almost sick from overwork and care and loss of rest. Does he ask, "Who will pay for this?" No, he dons his coat and gives the poor patient the same care that he bestows on his richest client. You have asked your family physician to call on some needy family. Did he ask you to whom he should turn for his pay? Your grocer would, but your physician—never.

And the physician gives naught to charity. The physician asks not whether the patient be poor or rich. Each and all get his full care and sympathy and the full benefit of his skill. And more than that, when all friends, yea, and even relatives, have deserted the bedside of contagion the doctor takes his life literally in his hands and ministers to the needy sufferer even as he attends to the rich. We have personal knowledge of two physicians who died from disease contracted at the bedside of the poor—and the physician who gave his life has done nothing for charity.

And the doctor gives nothing to charity. Because he gives no money, nor clothes, nor food, nor drink, you think he gives nothing—you see no material evidence of his service. He has no food or drink to give; he has only hard earned, dearly bought knowledge and his time to give. That is his all and he gives it freely and gladly, often, nay usually, receiving no thanks for his pains. Your grocer may give tea or potatoes—that means something to you. But that may be charged to the profit and loss account to be paid for among the expenses of the business. The physician gives his time. He can never recover a moment when once given. It is lost as far as expecting any return therefrom is concerned. It cannot be charged on his books to naught except charity.

The physician gives his all, his knowledge, his care, his time and his life at the call of duty, his duty among the poor as well as the rich—and his is largely among the poor from whom he looks for no return except gratitude. And the doctor gives nothing to charity?

HARD TIMES.

All sorts of theories have been brought forward to account for the "hard times," and each theorist is found armed with his own special remedy, the which is confidently expected to cure the evil. Business depression seems, indeed, to be a disease about which there is great disagreement among the would-be doctors, both as to causation and treatment; for each reformer who thinks himself called upon to cure the complaint attributes it to a different cause, and proposes a different remedy. After all the wrangling and discussion, after all the medicines proposed for the alleviation of the evil, the fact remains that the hard times are still a situation which confronts us, and a problem which requires a solution. All the efforts of politicians and of ethical philosophers have been directed to remedying this great evil at one *grand coup*, for, of course, no slow method, no matter how sure, could be expected to meet the expectations of such ambitious and go-sound-my-praise-abroad advocates.

The personal element has no place in their schemes. The public is to be raised *en masse* from the slough of despond, and any method which does not cure the disease at once, and release the multitude from the financial straits into which they have fallen, is unworthy of consideration. Nevertheless, there is one measure, which, if every man will personally apply it, will go a long way toward assuring prosperity and industrial peace, and that remedy is—pay your debts. When sojourner Truth, that remarkable colored agitator, after listening in the prayer-meeting to many long-winded harangues on the uses and necessities of faith, slowly rose to her feet and shouted, "Bruddren, what we need in dis church, mo' dan eberyting else, is a debt-paying faith," she shocked her audience, but nevertheless, she undoubtedly hit upon one of the great needs of every community.

If every man and woman, who is perfectly well able to meet their just obligations, should start out to-morrow with the determination to pay their debts, who can doubt but that "hard times" would receive its death blow? By means of such a carrying out of a simple personal duty, a large sum of money would be brought into circulation in every neighborhood. In every civilized community under the modern conditions of society, the relation' of each and every man to his fellows are so intimate that few of us can live entirely to ourselves alone. We are all mutually dependent. Every debtor who neglects to pay his debts makes it hard for his creditor to do his duty and meet his own obligations. The reason why D. does not pay the debt which he owes E. is because A., B. C. who owe him do not promptly meet their obligations, and so it goes, and we find that every citizen in a town is more or less dependent on every other citizen, and that he had others more or less dependent on him.

Now the great financiers have again and again told us that even in the hardest times there is enough money in existence, but that the trouble is that it is locked up and is not put in circulation. Every debtor who owes a bill can relieve this depression to a certain extent by starting his money on the move, and if every solvent debtor would pay what he owes, the circulating medium would be wonderfully increased.

At the present day we enjoy all sorts of holidays and celebrations, fast days and feast days; now what a great benefit would be conferred on society if a general sentiment would arise in every neighborhood which would result in a determination to celebrate a given day, by each and every citizen paying all his bills and freeing himself and others from debt?

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A MILITARY HOSPITAL FOR SAVANNAH.—The War Department has decided to select Savannah for a camp to be occupied by Fitzhugh Lee's corps of thirteen regiments and two batteries. The government has already given plans for erecting an army hospital in this city. It will be a structure of forty pavilions and contain 1,000 to 1,500 beds. The city is laying pipes for water supply and a sewage system for the hospital and camp. It is estimated that about 15,000 to 20,000 soldiers will be in camp here possibly till January. Gen. Lee's headquarters will be in the banquet room Hotel De Soto. Savannah opens her hospitality to Lee's corps and welcomes the soldiers.

EDITOR'S TABLE.

The yellow fever in the South is spreading rapidly through Mississippi, and bids fair soon to have the entire State within its grasp unless a killing frost puts a stop to it. Up to October 20 the total record of yellow fever for the summer is as follows: Louisiana, 925 cases and 34 deaths; Mississippi, 736 cases and 48 deaths. One case is reported from Arkansas, and one case and one death from Kentucky. Total cases reported in Mississippi and Louisiana, 1,661; deaths to date, 72. The disease has been reported from 35 different places. The Mississippi State board of health despaired long ago of confining the infection, and is now devoting itself chiefly to the work of relief and of securing nurses for the places that are stricken. An appeal has been made to the federal government, but under existing laws the Marine Hospital service can only establish detention camps and maintain a corps of inspectors and physicians, but cannot furnish nurses or supplies. The State officials have been seized by the general panic, and, with the valiant governor at their head, have deserted their posts at Jackson and are in hiding in some out-of-the-way places. As soon as the yellow fever threatened to become epidemic, Governor McLaurin took his private secretary and transferred the executive department of the State government (very appropriately) to the insane asylum, two miles from Jackson. But this was too near his post of duty (and the yellow fever), so he gathered up his family and tried to get to his home at Brandon; but the people there wanted no possibly fever-infected governor, so they told him to march on. Since then he has not been heard of, and may still be running. Most of the other State officers have followed their official head, and no one remains in the capital, even to receive taxes. Nearly all of the whites who can have fled from the infected districts, and the poor negroes are inclosed within a strict cordon, without any of the necessaries of life, in true reconcentrado style that would put Weyler to the blush. The wretched sufferers crowd as near to the line as possible, and beg for food for themselves and their families. The panic-stricken whites will not let them out, and have made no provision for their sustenance. The mortality from the disease continues low, but will doubtless begin to rise if starvation is added to the disease.

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Pleasures of a Doctor's Life.—According to an exchange, the following are some of the sweets of a doctor's life: If he visits a few of his clients when they are well, it is to get his dinner; if he does not do so, it is because he cares more for the fleece than the flock. If he goes to church regularly, it is because he has nothing else to do; if he does not go it is because he has no respect for the Sabbath or religion. If he speaks to a poor person, he keeps bad company; if he passes them by, he is better than other folks. If he has a good carriage, he is extravagant; if he uses a poor one on the score of economy, he is deficient in necessary pride. If he entertains, it is to soft-soap the people to get their money; if he does not, he is afraid of the expense. If his horse is fat, it is because he has nothing to do; if he is lean, it is because he is not taken care of. If he drives fast, it is to make people believe that somebody is very sick; if he drives slow, he has no interest in the welfare of his patients. If he dresses neatly, he is proud; if he does not, he is wanting in self-respect. If he works on the land, he is fit for nothing but a farmer; if he does not, it is because he is too lazy to do anything. If he talks much, "we don't want a doctor to tell everything he knows;" if he does not talk, "we like to see a doctor social." If he says anything about politics, he had better let it alone; if he does not say anything about it, "we like to see a man show his colors." If he visits his patients every day, it is to run up a bill; if he does not, it is unjustifiable negligence. If he says anything about religion, he is a hypocrite; if he does not, he is an infidel. If he uses any of the popular remedies of the day, it is to cater to the whims and prejudices of the people to fill his pocket; if he does not use them, it is from professional selfishness. If he is in the habit of having council often, it is because he knows nothing; if he objects to it on the ground that he understands his own business, he is afraid of exposing his ignorance to his superiors.

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SOME DONT'S FOR SUBSCRIBERS.—The Dont's extant at this time are numerous, but there is room for a few more of a different kind:

Don't fail to renew your subscription when it has expired.

Don't fail to notify the publisher when you have changed your place of residence.

Don't fail to advise the office when you discontinue.

Don't leave this duty to the postmaster.

Don't forget or neglect to do the gentlemanly thing.

Don't throw the statement of your account in the waste basket and leave the publisher under the impression that the statement was not received.

Don't fail to make a note of it when a bill is presented for payment.

Don't conclude that no personal honor is involved in unpaid dues on subscription.

Don't discriminate between debt due for your selected journal from one due you from your patient.

Don't forget that the golden rule is binding here as elsewhere.

And Don't forget that money is required to conduct a medical journal.—*Exchange.*

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We wish to offer a suggestion to the readers of the JOURNAL in regard to the extremely frequent use of the coal tar derivatives known as phenols. It seems to us that we, as prescribers of drugs, are not careful enough in the use of many or all of this class of remedies, and certainly the laity, ignorant of their effects, are running great risks in the frequent and indiscriminate use of them. It has been our lot to see several cases (and we could give the names of the parties) of actual poisoning, even to a critical degree where phenacetin and antipyrin had been taken for headaches. There are few drug stores from which these drugs in some form or other, often under the name of somebody's headache powders or pills, are not sold almost daily, and without a physician's prescription. The effect upon the heart is not only that of temporary depression, but in time permanent organic changes take place, the blood is deteriorated and the entire physical condition affected.

Therefore, it seems to us that we should not only exercise greater care in our selection of the forms in which to administer this drug, but that we should caution our patients against the use of any of the different forms, unless prescribed by a physician.

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We are much congratulated at the hearty response with which our friends are sending checks, post-office money orders and $2.00 bills, paying up and renewing subscriptions. We append below a letter from a prominent Georgia doctor, who is a reader of the JOURNAL. These are the letters we appreciate:

WAYNESBORO, GA., Oct. 12, 1898.

Drs. Graham & Fitch, Editors:

DEAR DOCTORS—Inclosed you will please find my draft for $2.00; place the same to my credit and renew my subscription for your GEORGIA JOURNAL OF MEDICINE AND SURGERY from September, 1898, to September, 1899. It is useless, no doubt, for me to add my appreciation. More assurance of my accord in words for the high standard of medical journalism you are maintaining, my actions must speak for me. Yours respectfully,

C. HOLCOMB COX, M. D.

If you are not a subscriber, send us $2.00 and receive the JOURNAL from now until 1900. This will be $2.00 well invested. Try it and see.

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TWO ARMY APPOINTMENTS.—The public press is responsible for the information that Surgeon-General Sternberg has selected two medical men from Houston, Texas, for special work in Cuba and Porto Rico. Neither one is eligible for membership in any of the regular county or state medical societies. One has been out of practice for several years and is a great advocate of the dosimetric system of therapeutics; while the other is unclassified. The Surgeon-General evidently wants to please all sorts and conditions. But this is no worse than the appointment of a veterinary surgeon to rank and pay of captain, at Camp Wykoff, to care for sick soldiers. The general, possibly, thought they needed *horse doses.* We would infer as much from his appointment.—*Tex. Med. Jour.*

THE FILTH OF HAVANA.—Dr. W. F. Brunner, sanitary inspector of the Marine Hospital Service, has made his first report from Havana since the war began. He says that the city is even more filthy than it was before, if such a thing can be imagined. There is not a great deal of yellow fever, simply because there is but little material for the disease to feed upon, but pernicious malaria, dysentery and typhoid fever are raging. The deaths for the week ending October 6 were 536, which is larger than for any single week during the past year. There are still some reconcentrados, whose deaths from starvation help to swell the roll of mortality in that wretched Spain-ridden city.

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The following officers were elected at Nashville of the Mississippi Valley Medical Association:

President—Dr. Duncan Eve, Nashville, Tenn.
First Vice-President—Dr. A. J. Ochsner, Chicago, Ill.
Second Vice-President—Dr. J. C. Morfit, St. Louis, Mo.
Secretary—Dr. Henry E. Tuley, Louisville, Ky. (111 W. Ky. St.)
Treasurer—Dr. Dudley S. Reynolds, Louisville, Ky.
Next Place of Meeting—Chicago.
Chairman of Committee of Arrangements—Dr. Harold N. Moyer.
Time of Meeting—October, 1898, date to be determined by the Executive Officers and the Chairman of the Committee of Arrangements.

BOOK REVIEWS.

An American Text Book of Gynaecology, Medical and Surgical for Practitioners and Students. By Henry T. Byford, M. D., J. M. Baldy, M. D., Edwin B. Cragin, M. D., J. H. Ethridge, M. D., William Goodell, M. D., Howard A. Kelly, M. D., Florian Krugs, M. D., E. E. Montgomery, M. D., William Rice Pryor, M. D., Geo. M. Tuttle, M.D., edited by J. M. Baldy, M.D. Second edition revised, with 341 illustrations in the text and 38 colored half-tone plates; cloth $6.00; sheep or one-half morocco $7.00; by subscription only, Philadelphia, Pa., W. B. Saunders, 925 Walnut street.

This is a work that one must examine in order to properly appreciate the book; its examination almost disarms criticism and makes praise seem inadequate. It is remarkable for the clearness and simplicity of its style, the straightforwardness of its teaching, the richness of its clinical material and the wonderful beauty and accuracy of its many illustrations. The authors, the artist and the publisher are all to be congratulated in that they placed before the profession such a valuable work on Gynæcology.

The first chapter—forty pages—is devoted to the examination of the pelvic organs, the use of various positions and instruments. In the second chapter the author devotes about thirty pages to technique of gynæcological operations, including the *preparation of the room, surgeon, assistants, instruments, ligations, dressings, drainage* and all those features which scientific investigation have shown to be conducive to success in the majority of cases. Then follow exhaustive but very practical chapters on "Menstruation and its Anomalies," "Sterility," "Genital Tuberculosis," "Diseases of the Vulva and Vagina," Inflammatory Diseases of the Uterus," "Distortions and Mal Positions."

In this chapter the flap-splitting operation for complete laceration of the perineum is worthy of mention. The chapters on tumors are cleverly written and quite up-to-date.

About 100 pages are devoted to "Pelvic Inflammation." The author's brilliant researches, mature judgment and skillful work make this a leading feature of this volume. Then after the consideration of Ectopic Gestation come chapters on the "Diseases of the Ovaries" and conservative operations on the Tubes and Ovaries. After considering in one section of sixty pages the diseases of the urethea, bladder and ureters, the author concludes the volume with the "After Treatment in Gynæcological Operations," and one lays down the book feeling sorry that there was not just a little more of it.

A Clinical Text-Book of Medical Diagnosis for Physicians and Students, based on the most recent methods of examination, by Oswald Vierordt, M. D., Professor of Medicine at the University of Heidelberg. Authorized Translations, with Additions by Francis H. Stuart, A. M., M. D., Member of the Medical Society of the County of King, New York. Fourth American Edition, from the Fifth German, Revised and Enlarged, with 194 Illustrations. Philadelphia, W. B. Saunders, 925 Walnut street. 1898. Price, cloth, $4.00 net; sheep or half morocco, $5.00 net.

We have before us probably the *very* best work on medical diagnosis in the reach of the medical profession. It is thoroughly practical and as complete as such a work can be made on the subject it seeks to cover. To master and give the review it deserves is no child's play. The author, in his preface to the first edition, said that "should the book to any extent antagonize the inclination of our time to theorizing, it would afford me especial satisfaction." Unless he meant premature or "far-fetched" speculation, it is difficult to surmise what he could mean by such an expression. By the very nature of things every diagnosis is a theory, and because of this it is impossible to conceive of any other practical use for this excellent volume than to encourage, not discourage, theorizing. Indeed it is a great pity that we are not yet able to generalize sufficiently well the data a work like this contains so as to bring it within not only the capacity of the average student to acquire it, but the ability of the average practitioner to utilize it. To systematize facts is as essential as to discover them. It is impossible within the limits of a brief review to point out the many good things which are contained in this volume and which every up-to-date practitioner will feel thankful for.

The united thanks of the profession are due Dr. Stuart for the great favor to the profession in giving it so well translated, and the publishers deserves our thanks for the handsome bindings, good paper, clear type, etc. It is filled with a perfect embarrassment of useful information to all who study it diligently, and it covers the whole field of practical diagnosis with one exception; to our regret, it does not mention the X-Rays as a diagnostic adjuvant. This is one *book* we advise every physician to buy and read.

American Pocket Medical Dictionary, Edited by W. A. Newman, A. M., M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania, Fellow of the American Academy of Medicine, etc. Bound in limp leather, gilt edges, 517 pages. W. B. Saunders, 925 Walnut street, Philadelphia, Pa. Price $1.25.

This handy little reference book contains the pronunciation and definition of over 26,000 of terms used in medicine and kindred sciences, besides over sixty handy reference tables. It is remarkably accurate in terminology, accentuation and definition.

The Care of the Baby. By J. P. Crozer Griffith, M. D., Clinica Professor of Diseases of Children, University of Pennsylvania, Physician to Children's Hospital, Philadelphia, Member of the American Pediatric Society and of the Association of American Physicians. 404 pages with 67 illustrations in the text and 15 plates, 12 mo., linen binding. Price $1.50. W. B. Saunders, 925 Walnut street, Philadelphia, Pa.

This little volume is a reliable guide for mothers and nurses, medical students and practitioners whose opportunities for observing children have been limited. The whole of this is characterized by rare good sense and judgment. We will, to give you an idea of the subject contents, enumerate a few of the chapters: "Before the Baby Comes," "The Baby," "The Baby's Growth," "The Baby's Toilet," "The Baby's Clothes," "Feeding the Baby," "Sleep" and "The Sick Baby," which is the longest chapter, is designed especially for the mother. A few illustrations have been inserted to more plainly elucidate the meaning of the text. In the appendix are found tables showing the proportionate doses at different ages and the doses of many of the household remedies most commonly given to baby before the doctor comes.

Saunders Question Compends No. 7. Essentials of Materia Medica, Therapeutics and Prescription Writing Arranged in the Form of Questions and Answers Prepared Especially for Students of Medicines. By Henry Norris, M. D., Fellow of the College of

Physicians, Philadelphia. Fifth Edition enlarged and revised. W. B. Saunders, 925 Walnut street, Philadelphia, Pa. Cloth binding, $1.00.

This book is not intended to replace with the student any of the larger or more comprehensive text books on materia medica, but to simply place before students in a condensed form the principles of this branch of the science of medicine. It is very helpful to students preparing for final or state examinations. This is a thoroughly reliable hand-book on materia medica. The enormous sale of these "self-helps" of Mr. Saunders is indisputable evidence of their popularity with students and practitioners.

A Text-Book of Materia Medica, Therapeutics and Pharmacology. By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians, Medical Department of the University of Illinois, Professor of General Medicine and Diseases of the Digestive System, Chicago Chemical School, Attending Physician to Cook County Hospital, Member of the American Medical Association, etc. Second Edition revised. Pages 812. Cloth binding, $4.00 net; sheep or half morocco, $5.00 net. Philadelphia, Pa. W. B. Saunders, 925 Walnut street.

It is peculiarly gratifying to the writer to be called upon to review such a concise, practical, up-to-date work on this subject. This work furnishes the student of medicine a clear, practical understanding of the uses, actions and relation of remedies, embodying the synthetic classifications of drugs based upon therapeutic affinities. We consider this at once the most philosophical and rational as well as that best calculated to engage the attention of those to whom the study of the subject is wont to have no little perplexity. The author divides all remedial agents into two great classes: Disease medicines and symptom medicines, under the first class of remedies are placed those used in cases which cannot be relieved by a single dose of any but require repeated and prolonged administration. The second class of remedies are those having a specific virtue of relieving symptoms of, or preventing complications in acute disease. These classes named might be sub-divided *ad infinitum*, yet the author, for the sake of simplicity, has divided only the first class disease medicines, including remedial agents employed therein under the general heads—Restoratives, Alteratives and Antiseptics. The author devotes special attention to the pharmacology of drugs. This, in many recent works on this subject, has been omitted. The "untoward action" and "poisonous effects" are treated under separate heads, the Latin accent and nomenclature is worthy of mention. To the prescription writer the appropriate Latin genitive and in a few cases the accusative will doubtless afford valuable assistance. The dose of all the remedies are given in both the metric and American systems of weights and measures.

An American Text Book of the Diseases of Children, including Special Chapters on Essential Surgical Subjects, Orthopoedics, Diseases of the Eye, Ear, Nose and Throat, Diseases of the Skin and on the Diet, Hygiene, and General Management of Children. By American Teachers. Edited by Louis Starr, M. D., Consulting Pediatrist to the Maternity Hospital, Philadelphia; late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Member of the Association of American Physicians and of the American Pediatric Society; Fellow of the College of Physicians of Philadelphia, etc. Assisted by Thompson S. Westcott, M. D., Instructor in Diseases of Children, University of Pennsylvania; Visiting Physician to the Methodist Episcopal Hospital; Fellow of the College of Physicians of Philadelphia, and Member of the American Pediatric Society. Second edition revised. Cloth, $7.00; sheep or half morocco, $8.00. Philadelphia. W. B. Saunders, 924 Walnut street. 1898.

This comprehensive and elaborate text book, in its second edition, is the work of more than sixty authors, all of whom are professors and teachers connected with the various medical schools in the United States. In this age of "hurry and bustle," as Dr. Starr remarks in his preface, "the practitioner must too often read as he runs, and the student of necessity is unable to devote his study hours to one branch of medical science. It is impossible to spare the time necessary to consult various authorities, unless their writings are condensed between the covers of a readily handled volume. This volume, though a little bulky, is carefully condensed. The subject matter is limited to practical points; the sixty-seven collaborators are well selected; each article is up-to-date, and it contains chapters on special subjects which constantly come under the notice of those who work with or make a study of children and their ills. The present work is a revised and enlarged edition of that published in 1894, and contains, index included, 1,244 pages, and is divided into fourteen parts. The introductory chapter is by the author, Dr. Starr, devoted to the clinical investigation of disease and the general management of children. While containing nothing new, it is thoroughly abreast with the times, and as an expositionof the subject is worthy of the reputation of its author.

To review the different articles at length would, however, be impracticable with the limited space at our disposal, so it will have to suffice to briefly notice the more important and novel features. We cannot pass the subject of infectious diseases without noting that in the classification the author includes tuberculosis and malaria.

The monograph on vaccination, by Westcott, is exceptionally interesting. Owing to the scarcity of literature on this subject, many rashes are put down as caused by vaccination, both by parents and physicians, which have absolutely not the most remote connection with vaccination.

The section on Asiatic cholera, though a disease that does not effect intimately this country, is a splendid contribution. Tuberculosis, diptheria and malarial fever are also well considered.

Dr. Vaughn's contribution on diarrhœal diseases is well written and full of useful information.

The new articles include "Modified Milk and Milk Percentage," "Lithemia" and a section on "Orthopeadics." Those rewritten are "Typhoid Fever," "Chicken Pox," "Tuberculosis," "Hydrocephalous" and "Scurvy." This is by far the best work ever published on diseases of children in the English language.

We congratulate the editor upon the result of his work, and heartily commend it to the attention of every student and practitioner.

Glaucoma—Its Symptoms, Varieties, Pathology and Treatment. By Alex W. Stirling, M.D., C.M. (Edin); D.P.H. (London), Atlanta, Member of the Ophthalmological Society of Great Britain; late House Surgeon Royal Westminster Ophtalmic Hospital, Lond; Instructor in Ophthalmology, and Ophthalmologic Surgeon Post Graduate Medical School and Hospital, New York, with illustrations from micro-photographs. Cloth bindings, $1.50. Jones H. Parker, St. Louis. 1898.

In this volume will be found everything of interest and importance about GLAUCOMA. It treats very fully and completely the different forms of Glaucoma, their etiology, symptoms, diagnosis, prognosis and treatment. The volume closes with a chapter on the methods of operation; the index is commendable. We recommend it to those interested in this subject.

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The burning of the church containing a man sick with yellow fever in Tallahatchie county was a most deplorable affair. From the manner in which the newspapers reported it one is led to believe that the man was not dead. It is sincerely to be hoped that the papers are mistaken in their veiled allusions, for if they are true no State has been guilty of any crime so great as the murder of a dying man until our own commonwealth wrote this record on its pages.

PROGRESS
—OF—
MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

W. Z. HOLLIDAY, M. D.,
INSTRUCTOR IN MATERIA MEDICA, MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.

RALSTON LATTIMORE, M. D.,
SAVANNAH, GA.

The Use of Pyramidon in Diseases of the Nervous System.—Dr. Rudolph Landenheimer reports upon the use of this antipyrin derivative in more than one hundred instances during the past year. In headache of undetermined origin, especially when occurring during convalescence from psychoses, five to eight grains gave relief after the lapse of one to two hours. It was equally successful in the headaches of alcoholics. In hysteria the results were uncertain, but for nervous men, those overworked and sleepless, the remedy gave satisfaction. The pain of alcoholic neuritis was not benefited, although the sensitiveness of the nerve-trunks was lessened. Of lumbago, two instances were benefited, a third unaffected by even large doses. Only two patients suffering from acute articular rheumatism came under observation. The pain speedily lessened, the swelling gradually disappeared. Chronic rheumatism was not benefited. The lancinating pains of tabes were temporarily benefited. The maximum dose given above can be safely administered thrice daily. Untoward symptoms have not been noticed.—*Therapeutische Monatshefte*, 1898, Heft 4, S. 177.

Oil of Salosal in Urinary Diseases.—Dr. Oscar Werler, having ascertained that salol is soluable in Bombay oil of salosantal to 33 per cent., proposes the name given above for the combination. The dose employed is from ten to twenty drops after each meal in a tablespoonful of sweetened water. This can also be administered in gelatin capsules. Salol, according to Arnold, renders alkaline uric acid, removes the foul odor, diminishes its purulency, increases the quantity, and does not interfere with digestion. Ten instances of the use of the remedy are reported. Its advantages are that (1) it is not only antiseptic, but as well analgesic. (2) It is equally effective in alkaline as in acid urine. (3) It is diuretic. (4) It is not expensive. Its contra-indications are acute and chronic nephritis, gastric indigestion, and those who do not tolerate balsams. Its indications are (1) in affections of the urethra and bladder which are characterized by sensitiveness when injections and irrigations are not possible. (2) Acute exacerbations and complications, with painful and severe inflammatory reactions, for which antiphlogistic, antispasmodic and sedative remedies must be applied. (3) Instances of chronic vesical catarrh with alkaline, ammoniacal urine, as well as those in which the urine is acid when an antiseptic is needed. (4) Instances of obstinate and chronic gonorrhœa when not only a parasiticide but an anti-catarrhal remedy as indicated.—*Therapeutische Monatshefte*, 1898, Heft 5, S. 266.

INFANTILE DIARRHŒA TREATED BY EUDOXINE.—(*N. Y. Med. Jour.* Aug. 20). Dr. Eligarian has used this new preparation, which is a combination of iodine 52.9 and bismuth 14.5, extensively in infantile diarrhœa. In irritative diarrhœa with mucus stools with bad odor and streaked with blood, in twelve to twenty-four hours the character of the stools have changed entirely and the vomiting and distended abdomen and fever stopped. He uses from ½ grain in children 2 to 3 months old to 5 grains in children 5 years old, repeated every three hours.

DRY CALCIUM SULPHOHYDRATE AS A DEPILATORY.—Dr. Alembert W. Brayton states that calcium sulphohydrate can be made by heating a granulated mixture of plaster of Paris (calcium sulphate) with granulated wood charcoal (to take off the oxygen). A high temperature is necessary, and it is best obtained by means of gas. A muffler is used—*i. e.*, set in cinders or bone-ash, and the mixture is heated to redness. By this method neither sulphuric acid nor iron sulphide is used. The dry, rose-colored or whitish product is applied to the skin in a wetted condition, or it may be put on dry and then wetted. Hydrogen sulphide is given off, which causes a rather foul smell. The substance is perfectly harmless to the skin, and may be left on any length of time, and does not even irritate abraded surfaces. It can be made cheaply.—*Journal of the American Medical Association*, 1898, No. 16, p. 921.

THE TREATMENT OF LATENT DYSPEPSIA.—M. Albert Robin states that if the stomach does not perform its work this failure can be completely supplied by the intestine. Reference is made to the total ablation of the stomach of a dog by Fremont. If the conclusion is reached that the stomach is not indispensable, it does not follow that latent dyspepsia is not without its inconveniences. If, however, the intestine fails, then the symptoms of dyspepsia appear and dominate the scene. To obtain a cure the constipation must be relieved, and for this these measures should be employed: (1) Purgatives, particularly drastic purgatives in small doses, for these are not followed by constipation as are the salines, which necessitates their continued use. (2) Gentle and methodical massage of the large intestine, and (3) the use of mineral waters, as Châtelguyon, Brides, Aulus, Kissingen and Carlsbad. Albuminuria of dyspeptic origin is frequent, there also exists a dyspeptic diabetes, and these require treatment which is not usually considered in the discussions upon the therapy of these conditions. *Le Progres Medical*, 1898, No. 12, p. 182.—*Amer. J. Med. Sci.*

INFILTRATION ANÆSTHESIA.—Dr. Carl Ludwig Schleich, after recounting his experiments, states that the technical process is always the same; the formation, by means of the three solutions bearing his name, of an artificial œdema of the whole area within which an operation is to take place. The entire surface must be saturated in order that the operation may be completed without further injections. The needle is inserted its whole length horizontally so that it does not penetrate into the fatty tissues, and the contents of the syringe forced out by drops as the needle is gradually withdrawn The subcutaneous tissues are next anæsthetized by expelling the fluid as the needle advances down to the limit which the operator is expected to reach. The strengths of the solutions are as follows: Cocaine hydrochlorate, 0.2 (strong), 0.1 (medium), 0.01 (weak); morphine, 0.025 (strong and medium), 0.005 (weak); sterilized sodium chloride, 0.2; distilled water to 100.0.—*Pediatrics*, 1898, No. 8, p. 335.

[Evidently the morphine has some effect in producing anæsthesia. Further than this the observations of Halsted, which showed that pure water, when injected hypodermatically, produced anæsthesia, have not been considered.]

CLINICAL OBSERVATIONS UPON KRYOFINE.—Dr. M. A. Schlenker has employed this drug for seven patients, whose histories are reported. As an antipyretic it acts within an hour after its administration, and its effects last for at least three hours. As an analgesic it is equally good or superior to antipyrine or phenacetin, and seems to be well borne by the stomach. In hysteria the neurasthenia it gives restful sleep. The dose varies from seven to fifteen grains, but seventy-five grains have been given without producing death, although with such an amount there is marked depression.—*Atlantic Medical Weekly*, 1898, No. 20, p. 305.

PERONIN.—Dr. Meltzer concludes that (1) this remedy (benzylmorphine), in dose of from two-thirds to one and one-half grains, acts similarly to morphine, but is free from any unpleasant after-effects. (2) Its place, as concerns its hypnotic action, is between morphine on the one side, and such hypnotics as paraldehyde, amylene hydrate, sulphonal and trional on the other. Its disadvantages are its difficult solubility and its unpleasant taste. The first can be remedied by its mixture (not solution) as follows: Peronin, 2; saccharin, 0.5; spirit of wine, 100; and water, 900. This must be thoroughly shaken before the dose is taken from the bottle. As for the second objection, it is more unpleasant than the above-named hypnotics.—*Therapeutische Monatshefte*, 1898, Heft 6, S. 316.—*Amer. J. Med. Sci.*

MEDICINE.

UNDER THE CHARGE OF

WM. CLIFTON LYLE, M. D.,
INSTRUCTOR IN CHEMISTRY IN THE MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.
R. L. PAYNE, A. M., M. D.,
NORFOLK, VA.

The Length of the Incubation Stage in Typhoid Fever.—E. Jancken (*Wiener klinische Wochenschrift*, 1898, No. 27) had an opportunity of making an important observation. Certain troops marching through two small villages in which were a number of cases of typhoid fever, drank copiously of water given by the villagers. That infection was acquired in this way follows from the absence of other exposure. Moreover, other troops passing through without pausing to drink remained free from infection. Of the thirty-six cases the symptoms appeared suddenly in all, with headache, chill, fever, severe diarrhœa, abdominal pain and weakness. The course was mild, and defervescence occurred in the third week. The beginning of the disease was noted in three men on the second day (*i. e.*, two days after infection), in seven on the third day, in six on the fourth, four on the sixth, five on the seventh, in the other seven between the ninth and fourteenth days. This shows that under favorable conditions the typhoid bacilli can produce symptoms within two days. In the cases observed the favorable conditions consisted in great fatigue, excessive thirst and the ingestion of considerable quantities of the infected water. That the germs were not of unusually great virulence may be supposed from the mild form of the disease.

The Diazo-reaction.—Krokiewicz (*Wiener klinische Wochenschrift*, 1898, No. 29) has made an extensive series of observations (more than sixteen thousand tests in eleven hundred cases) on this test, covering a great variety of diseases. Of many of the results it is not necessary to speak here. Suffice it to say that in most diseases examined the reaction was rarely or never present. An interesting result was that in kidney disease (except in the case of chrysarobin poisoning) the test was never employed. Even in cases of tuberculosis, with chronic nephritis or amyloid disease, the reaction was absent. In malaria the reaction was sometimes obtained in the acute febrile stage; in the chill it was always absent. The author found that the diazo-reaction occurring in pulmonary tuberculosis indicates a bad prognosis. The reaction is sometimes present before bacilli can be detected. Cases in which the reaction occurred with slight lesions ran a rapidly fatal course. Gangrene of the lungs in the course of tuberculosis seems to prevent the reaction. In tuberculosis of the mucous membranes, the lymph glands, the motor and genito-urinary tracts, the reaction is often absent altogether or in part of the course. In miliary tuberculosis the reaction is always present, but may become less intense just before death. In typhoid fever, even in abortive cases, the reaction is always present in the first and second stages. Later it becomes less intense or is absent. The reaction in this disease may be looked on as a symptom, and so long as it is present the disease cannot be considered as subsiding, even if the course at the time seems favorable. The reappearance of the test in convalescence always indicates a recidive. In cases of doubt between cancer of the stomach and intestinal tuberculosis the constant absence of the reaction points to cancer. The author made experiments with the toxins of tuberculosis, typhoid, erysipelas and pus, with negative results, and is inclined to ascribe the reaction to unknown products of cell metabolism.—*Amer. J. Med. Sci.*

Typhoid Fever and Infected Ice.—An outbreak of typhoid fever among the junior officers of a French regiment stationed at Rennes is attributed by Dorange (*Revue d' Hygiene*, April, 1898), to the use of ice obtained from the Vilaine at a point below the town, where the water was extensively polluted by the sewage of a large district in which there had been a number of cases of typhoid fever. All the regimental officers had been present at a dinner where, the food being the same for all, the beverages consumed differed in this respect, that the captains and other superior officers drank only beer, while the lieutenants, who were in a room by themselves, drank champagne-cup. It was only among the latter that the cases, eight in number, appeared. It was discovered that the ice used in making the cup came from the source above mentioned.

New Constituents of the Atmosphere.—Since the discovery of argon by Lord Rayleigh, Ramsay and Travers have discovered another gas, krypton, in liquefied air after getting rid of the nitrogen and oxygen. This has been followed by the announcement, on June 29th, by Professor Ramsay that he has discovered two more, which he has named neon and metargon (*La Nature*, July 9, 1898). Still another has been detected by Prof. Nasini (*The Engineering and Mining Journal*, August 13, 1898), who has been working with Anderlini and Salvadori on the gases emanating from the earth in various places in Italy. He has succeeded in proving the existence of, but has not as yet isolated, the supposed element coronium, which has never before been observed in any terrestrial products, and has been known only from a line in the spectrum of the sun's corona. He predicts the discovery of still other elements in the gases under observation.

GENERAL SURGERY.

UNDER THE CHARGE OF

HUGH M. TAYLOR, M. D.

PROFESSOR OF SURGERY IN THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

WILLIS F. WESTMORELAND, M. D.,

PROFESSOR OF SURGERY IN THE ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS, ATLANTA, GA.

SOME OBSERVATIONS ON BRAIN ANATOMY AND BRAIN TUMORS.—ABSTRACT.—Dr. William C. Krauss, of Buffalo, read a paper at the 92d annual meeting of the Medical Society of the state of New York, Albany, Jan. 25, 1898, with the above title.

He called attention (1) to the difficulty in remembering the gross anatomy of the brain, and (2) to the almost universal presence of optic neuritis in cases of brain tumor.

He attempted to overcome the difficulty in regard to the anatomy of the brain by formulating the following rules, which are somewhat unique and original, and at the same time easily remembered:

Rule of Two—1. The nerve centers are divided into two great divisions (1) cerebrum, (2) myelon. 2. The encephalon is divided into two subdivisions, (1) cerebrum, (2) cerebellum. 3. The cerebrum, cerebellum and myelon are divided into two hemispheres each, (1) right, (2) left. 4. The encephalon is indented by two great fissures, (1) longitudinal, (2) transverse. 5. Into these two great fissures there dip two folds of the dura, (1) falx cerebri, (2) tentorium cerebelli. 6. There are two varieties of brain matter, (1) white, (2) gray.

Rule of Three—1. There are three layers of membranes surrounding the brain, (1) dura, (2) arachnoid, (3) pia. 2. Each hemisphere is indented by three major fissures, (1) sylvania, (2) rolandic or central, (3) parieto-occipital. 3. Three lobes, frontal, temporal and occipital on their convex surface are divided into three convolutions each, superior, middle and inferior, or first, second and third. 4. There are three pairs of basal ganglia, (1) striata, (2) thalami, (3) quadrigemina. 5. The hemispheres of the brain are connected by three commissures, (1) anterior, (2) medi, (3) post-commissure. 6. The cerebellum consists of three portions, (1) right, (2) left hemisphere, (3) vermes. 7. There are three pairs of cerebellar peduncles, (1) superior, (2) middle, (3) inferior. 8. The number of pairs of cranial nerves in the classifications of Willis and Summering can be determined by adding 3 to the number of letters in each name: that of Willis making 9 and that of Summering making 12 (or the name containing the more letters has the larger number of pairs of nerves, and vice versa). 9. The cortex of the cerebellum is divided into three layers of cells, (1) granular, (2) Purkinje's cells, (3) a molecular layer.

Rule of Five—1. Each hemisphere is divided externally into five lobes, of which four are visible, (1) frontal, (2) parietal, (3) temporal, (4) occipital, and one invisible, (5) insula (9sle of Reil). Roughly speaking, the visible lobes correspond to the bones of the cranium: that is, the frontal lobe is underneath the frontal bone, the parietal lobe beneath parietal bone, etc. 2. The brain contains five ventricles, of which four are visible, the right and left, or first and second, the third and the fourth, and one invisible, the fifth or pseudo-ventricle. 3. The cortex of the brain contains five distinct layers of ganglion cells.

Studying carefully 100 cases of brain tumor in which an ophthalmoscopic examination had been made for the presence or absence of choked disc (optic neuritis), Dr. Krauss announced the following conclusions:

1. Optic neuritis is present in about 90 per cent. of all cases of brain tumor.
2. It is more often present in cerebral than in cerebellar cases.
3. The location of the tumor exerts little influence over the appearance of the papillitis.
4. The size and nature of the tumor exerts but little influence over the production of the papillitis.
5. Tumors of slow growth are less inclined to be accompanied with optic neuritis than those of rapid growth.
6. It is probable that unilateral choked disc is indicative of disease in the hemisphere corresponding to the eye involved.
7. It is doubtful whether increased intracranial pressure is solely and alone responsible for the production of an optic neuritis in cases of brain tumor.—*The Philadelphia Medical Journal.*

FRACTURE OF THE PATELLA; AN ARTIFICIAL JOINT.—Dr A. M. Phelps recently presented a patient to the Section on Surgery of the New York Academy of Medicine who had sustained a fracture of the patella the first week of last August. He went to St. Vincent's Hospital, and was treated there and discharged. In the second week of October he again fractured the patella, and was sent a week later to the City Hospital. When seen a few days later the limb was enormously swelled and the joint filled with fluid. The appearances were those of purulent effusion. Accordingly on November 7 Dr. Phelps operated on him. The case was presented because of the novel procedure adopted.

On opening the joint it was found that the synovial sac had been totally destroyed, that the cartilages of both the tibia and fibula had been almost entirely destroyed, and that complete excision seemed necessary. After he had succeeded in removing all of the diseased structures, the parts looked so much better that he resorted to a procedure used by him in two or three cases—*i. e.*, the endeavor to restore a normal joint by interposing some of the soft tissues between the ends of the bones, thus preventing the contact of bone with drainage. The patient was lost sight of for a time, but returned recently with the function of the joint preserved.

Dr. Phelps said that the reason he had resorted to this procedure in the present case was that in operations for angular deformity of the hip he had succeeded in obtaining a very good artificial joint. Last fall he had adopted the same plan instead of amputation in a case of ankylosed finger. Two incisions had been made, one on either side of the finger, the bones divided, and then one portion was made convex and the other concave, so as to simulate the natural surfaces of a joint. The arterial supply having been left intact, he turned to the flaps of cellular tissue between the ends of the bones, and obtained an almost perfect result.—*Medical Record.*

A NEW TYPICAL FORM OF ACUTE INTESTINAL OBSTRUCTION.—An interesting series of five cases of intestinal obstruction are reported by Hochenegg (*Wiener klin. Wochenschrift*, December 23, 1897), which demonstrate a new typical form of intestinal obstruction which he has named "combination-sileus."

In all the cases it was noted that a stenosis of the colon had existed for some time, producing an hypertrophy of the walls of the gut. Besides this lesion, all the patients suffered from an acute intercurrent obstruction of the small intestine, either by bands, contracting scar-tissue, or herniæ, the acute activity of which was produced by the drawing back of the intestinal contents, in the first place, by the obstruction in the large intestine. The intestine is distended between these points of stenosis and above them, and is marked by increased peristalsis. If the operation is undertaken at this stage only the obstruction in the colon would be detected.

The chronic condition present in the colon would cause an hypertrophy of its walls, and there would be greater force in its peristalis, which would be more effectual than that of the small intestine, and in consequence the retrograde peristalsis from the colon would finally force all its contents above the seat of stricture in the small intestine.

An operation undertaken at this time would undoubtedly remove only the obstruction in the small intestine, while the primary cause of the trouble would go undetected. This occurred in all the author's cases. At first there was apparent improvement, the patient gaining for a few days, when suddenly the symptoms of obstruction returned, with all their former severity, the subsequent operation alone demonstrating the true condition. Since the former operation and the patient's subsequent condition have so altered the force of the peristaltic movements in the colon that they are scarcely visible, the condition is difficult to differentiate from peritonitis.

Such a condition is a very serious one for an operator to face who believes that he has already removed all cause of obstruction, and it has probably frequently happened that patients have died because the possibility of such a complication was not thought of. The long interval between the relapses which some of the cases showed was possibly due to a temporary subsidence of the œdema present at the primary point of obstruction, caused by the rest and treatment of the secondary lesion. The occurrence of five cases in fifty-two operations performed by the author for intestinal obstruction shows that the condition is not so rare as might be supposed.

The diagnosis is materially assisted by considering the patient's statements as to where he first experienced pain and what the locality was in which the obstruction seemed to him to be situated. More certain is the observation in the early stages of peristalic movements in the distended colon and the subsequent change in the location of the symptoms. The change is generally one from a condition in which only immediate operative interference can be considered.

The symptom at the time of operation which will lead to the detection of such a condition, when it is suspected, is the contrast between the two portions of the colon. Above it is hypertrophied from the continued action required in overcoming the chronic condition prior to the complete obstruction, while below in the descending colon the intestinal wall is of normal thickness.

INGUINO-SCROTAL AND INTRA-ABDOMINAL LYMPHANGIOMA; LYMPHATIC VARICOCELE, WITH HYDROCELE CONTAINING FILARIA; TESTICULAR ELEPHANTIASIS.—The study of an interesting series of six rare cases of lymphatic disease of the testicle, scrotum and inguinal region leads Le Dentu (*Rev. de Chir.*, January 10, 1898), to classify these conditions as follows:

In the series of cases there were the acute, subacute and frankly chronic varieties. The acute cases are marked by rapid invasion and intense pain, the pain being less intense when the onset is less rapid, swelling of the epididymis and frequently of the testicle itself, thickening in the tunica vaginalis, redness of the integuments in certain cases, irradiation in frequent crises of the pain along the inguinal canal, the line of the ureter (the intense form of Audain), vomiting more or less frequent, a fever habitually intense, remittent, and lasting three, four or five days; this is the symptomatology of the disease variously termed special orchitis of warm climates, malarial orchitis or filarian orchitis. These crises are frequent after their first appearance, but frequently become less acute.

In contrast to the clearly acute cases there have been sometimes observed a swelling of the testicle practically without exacerbations, but with a continuous pain. This condition of subacute, constant pain may, on the other hand, succeed formerly acute crises.

The third group are marked by the chronicity of the lesion from the onset, by the absence of pain, by the coexistence in some cases of involvement of the testicle with elephantiasis of the scrotum. It is in this category that those cases belong which the author has demonstrated are true elephantiasis of the testicle and epididymis, and in which lesions are found that coincide exactly with those of cutaneous elephantiasis. This testicular elephantiasis is preceded by attacks of acute lymphangitis or by chronic lymphangitis commencing on the surface, or in the thickness of the tunica vaginalis, or the tunica albuginea, in the epididymis or in the deferent canal itself.

In one of the cases operated upon by the author a lymphangioma was found occupying the inguino-scrotal region and extending into the abdomen externally to the peritoneum, while there was present at the same time an incomplete inguinal hernia and a lymphatic varicocele; the latter was entirely separate from the lymphangioma and had no connection with it.

The cause of these lymphatic growths does not appear to be clear. Histologically they are alike, and yet in some the filaria sanguinis is found, as in one instance where it was seen of large size in the fluid of a hydrocele. Although it has been proven to be a cause of elephantiasis, and was found in the author's case of elephantiasis of the scrotum and testicle, the filaria is not always found in connection with these lymphangiomata.

There are two theories which seem tenable, the one attributing them to filarial infection independently of all climatic element; the other, in which climatic influences prepare the lymphatics for the subsequent growth and development of the filaria. The *elephantiasis nostras* proves that the filaria are not indispensable to the development of lymphatic disease. There are, therefore, other causes than the filaria capable of producing lymphatic engorgement and disororders of this system, and it is probable that the cause is complex in its nature, and that, for the present, further developments must be awaited before their etiology can be definitely settled.

THE SURGICAL TREATMENT OF LOCAL MANIFESTATIONS OF FILARIAL DISEASE.—Crawford (*Indian Medical Gazette*, April, 1898), illustrates an article on this subject by the report of two interesting cases of filiarial disease which show the beneficial effect of surgical interference in these cases. The question of operation resolves itself into the treatment of the different local troubles and inconveniences arising from the blocking of the lymphatic system in different parts of the body. Many of these local lesions are subjected to operation with very decided success, so much so that there is neither doubt nor hesitation on the surgeon's part, provided the general condition is satisfactory—the ordinary limitations, in fact, attending all surgical procedures undertaken where life itself is not in the balance. The presence of parasites in other parts of the body is no contraindication to operation.

The dilations of the lymphatics usually occur in the neighborhood of glands, and on careful dissection enlarged lymph-vessels may be seen passing into and out of them. The groin is commonly affected, both femoral and inguinal regions participating in the trouble, and frequently on both sides. It is probable that there is in some cases other deeper lymphatic involvement. The removal of glands might seem but a temporary relief, but the results obtained prove its value beyond doubt.

The wound caused by complete removal of filarial glandular enlargements and lymphangiectasis have been considered always as in no way differing from ordinary surgical wounds. Careful dissection is required, but the area involved is usually small, and ordinary surgical rules have always been applied successfully.

OBSTETRICS AND GYNÆCOLOGY.

UNDER THE CHARGE OF
WILLIAM S. GARDNER, M. D.,
INSTRUCTOR IN GYNÆCOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE, M. D.
HUBERT A. ROYSTER, A. B., M. D.,
RALEIGH, N. C.

Tne *Lancet*, in reviewing Pinard's "De la Symphysiatomic á la Clinique Baudelocque," says: "During the year ending Dec. 7, 1897, the operation of symphysiotomy was performed seven times in the Clinic Baudelocque, making a grand total of 89 such operations performed in that clinic during the six years—1892-'97. Six of the cases were examples of rickety, flattened pelvis, while the remaining case was one of a nægelé oblique pelvis. Of the mathes two were primiparœ and five multiparæ; of the former one died from sepsis and acute albuminaria, the latter complication being present upon her admission to the clinic. All children were born alive, three being delivered by forceps and four by vension. In one patient the operation was performed for the second time, her second pregnancy having been terminated by symphysiotomy in 1892. At the first operation a tear occurred through the vaginal wall into the operation wound, and at the second operation a similar accident happened in spite of every care being taken to prevent it. The urethra and bladder, however, escaped injury, and the wound healed well. In the event of this patient again becoming pregnant, Professor Pinard considers that Cæsarian section would be indicated on account of the cicatricial tissue present in the anterior vaginal wall. That symphysiatomy may produce some permanent enlargement of the pelvis seems to be shown by the fact that four of the patients delivered spontaneously during the year had previously had symphysiotomy performed upon them. The report is of interest as enabling us to watch the progress of the operation. Professor Pinard gently points out that in any future history of symphysiotomy a very important place will have to be assigned to the work done at the Clinic Baudelocque. That the operation is now established upon a firm basis is shown, he thinks, by the fact that in the discussion at the Moscow Congress no one was found to attack the favorable opinions expressed about it by Varnier, Zeneifel and Küstner."

Coe (*Medical News, N. Y.*, Sept. 24, 1898), gives a view of conservative surgery in gynæcological work which is eminently sensible. His conclusions are :

"First, conservative operations on the adnexa are to be commended in properly selected cases. The surgeon should avoid, on the one hand, tampering with ovaries that are the seat of septic degeneration or cirrhosis, and on the other, trying to preserve supposed normal tissues in organs which share such exterior disease that it is doubtful whether the best interests of the patient (both immediately and remote) would not be served by complete removal; in many cases it is advisable to simply separate adhesions. As there is no way of preventing their reformation, it is better to suture prolapsed tubes and ovaries at their normal level in the pelvis.

2d. *Anatomical Results*—In a certain proportion of cases resected ovaries undergo complete atrophy; in others the stromal remains may form the starting point of cysts, requiring a second operation for their removal. A tube which has been rendered potent or resected may again become occluded, or may form a hydrosalpynx or tube-ovarian cyst.

3d. *Symptomatic Results*—These are often entirely satisfactory as regards the relief from pain and sysmenorrhœa, the preservation of the functions of ovulation and the occurrence of conception. Per contra, constant pain and dysmenorrhœa may be present, menstruation may be absent, scanty or excessive and pregnancy is so for the exception that it is to be regarded as an unusually fortunate sequence. In any case, we are not in a position to affirm how few conceptions following resection of the adnexa is directy due to this procedure, or how for to the accompanying treatment—curettement, separation of adhesions, restoration of general health, improved sexual relations, etc. Our main object is the avoidance of the premature climactered.

4th. As regard technic, experience has shown that more successful conservative work can be done by the abdominal route, for reasons that are obvious, *i. e.*, through separation of adhesions, sutive of raw surface, checking of hemorrhage, overdose of drainage, etc. Catgut is preferable as a sutive material.

5th. As a corollary to the above, emphasis should be laid on the fact that, since the surgeon can never know the exact condition of the adnexa before opening the abdomen, he must not allow himself to be bound by a positive promise as to the course of procedure at the operating table. While he should endeavor to preserve healthy organs and tissues whenever this is possible, and must necessarily be guided to a considerable extent by the expressed wishes of the patient, he must not be persuaded against his better judgment to practice conservatism at the immediate risk of life or court ultimate failure in order to give her the more than doubtful chance of a future pregnancy.

The conscientious surgeon will not express himself too enthusiastically regarding the results of conservative operations for fear of arousing hopes which may be doomed to disappointment.

Shober (*American Journal of Obstetrics*, September, 1898), makes a preliminary report on the use of mammary gland in the treatment of fibroid tumor of the uterus and of perotid gland for ovarian disease. As a theory for the treatment he quotes Dr. Robert Bell, of

Glasgow, who says: "When local disease commences in an individual, the organ which it takes possession of must have departed from a healthy standard prior to this, and that the weakened condition of the organ affected may have been influenced by a morbid or functionally altered state of an organ in close physiological relationship. The healthy action of the skin and mucous membrane, and the adjacent connective tissue appears to be dependent upon a peculiar action of the thyroid gland, as shown by the recent studies in myxodema and psoriasis. Therefore, why may not epithelioma of the cervix uteri, which arises in the epithelial layer of the mucous membrane, be due to the absence of some obscure catalytic influence of this gland? It has also been observed that disease of the thyroid gland is often accompanied by an excessive metrorrhogia, showing that the function of the gland exerts some potent influence upon the lining membrane of the uterine canal. Epithelioma does not attack a previously normal cervix uteri, but if there is present any lesion, as laceration, hypertrophy, due long-standing endometritis, then this predisposing cause to the development, not only of epithelioma, but to affections of a less virulent type." Bell stated also that he used mammary gland extract for fibroids because the mammæ and the uterus are in close physiological sympathy, whilst the physiological relation between the perotid gland and the ovaries, as shown by the frequent metastasis (mumps) between the two, led him to give perotid extract in ovarian disease. Shober reports four cases fibroids which he had treated by the administration of extract of mammary gland. In each case the menses became less in quantity, more regular, and less painful, and there was a marked diminution in the size of the tumors. He also reports four cases of "ovarian disease" treated with perotid extract, in which there was apparently much improvement. But, as he says: "The results obtained with perotid gland in ovarian disease, while striking, are not convincing. Equally gratifying results are often obtained by local treatment alone and by other well recognized methods."

THE PREVENTION OF SORE NIPPLES.—J. Milton Mabbott, attending obstetrician, New York Infant Asylum (*New York Medical Journal*, Sept. 10, 1898), after calling attention to the importance of sore nipples as a cause in deterring mothers from nursing their children, as well as the influence of this condition in producing mastitis, speaks of the benefit of preventive measures. The method which he has found most efficacious is the use of lanolin and a soft nail-brush. The patient is to begin applying this treatment from four to six weeks before the expected date of confinement and continue until delivery.

Every night at bedtime a small portion of lanolin is thoroughly worked into each nipple with the thumb and fingers, special pains being taken to rub it well into any folds or crevices, especially in the case of depressed and sunken nipples. This kneading process has the effect of forming the nipple—partly by pulling it out and partly by causing erection—and this in itself develops the nipple and promotes facility of nursing. Lanolin is superior to other substances which might be used for this purpose by reason of its combined adhesive and penetrative qualities, promoting the nutrition of the epidermis. However, perhaps the most useful purpose of the lanolin is associated with its moral effect in furnishing a substance to remove in the morning by the second and more important step of the treatment. Lanolin resists saponification and requires considerable time for its removal.

The nail-brush should be soft and well soaked. A harsh brush at the beginning would have the effect of a file. It is desired to avoid causing abrasion at any time. If soreness is produced, the treatment has been too heroic. The nipple should be brushed with lukewarm water and any mild, pure soap (preferably a white soap), giving it a thorough lathering for three or four minutes. It should afterward be rinsed with fresh water and dried as after ordinary bathing. The effect of this treatment is to remove every detachable fragment of epithelium, together with any little crusts of dried secretion which may possibly have accumulated, and which, unless removed, act as a protection to the surface of the nipple and keep it tender and delicate.

The treatment here described exposes the surface not only to the friction of the brush, but also of the fingers in applying the lanolin, and still further to the contact and more or less rubbing of the clothing during the day. All these agencies combined, secured in so simple a manner, develop the cuticle, render it firm, elastic and resisting, and produce a useful nipple which may be almost guaranteed against subsequent abrasions and tenderness. No woman should consider it too troublesome, in view of the suffering and dangers which thus may be averted.

AN UNUSUAL MECHANISM OF LABOR COMPLICATED BY MYOMA OF THE WOMB.—In the *Münchener medicinische Wochenschrift*, 1898, No. 20, Falk reports the case of a multipara, aged 36 years, who had had five spontaneous labors. In her present labor pains were accompanied by free bleeding. On examination a hard tumor was found in the posterior cul-de-sac. The membranes were immediately ruptured, when the feet presented and the border of the placenta could be felt just above. As bleeding continued, the feet were brought down and the child delivered. The placenta was found partly separated and easily removed. The patient made an uninterrupted recovery.

Examination a few months after showed the tumor to be a myoma as large as a man's fist. The placenta had been partly separated early in labor, and the child doubled upon itself, the feet descending. Operation for the removal of the tumor was declined.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

UNDER THE CHARGE OF
S. POTTS EAGLETON, M. D.,
LATE ASSISTANT SURGEON TO WILL'S EYE HOSPITAL, PHILADELPHIA, PA.; OPHTHALMIC SURGEON TO MARION COUNTY SURGICAL HOSPITAL, OCALA, FLA,
J. LAWTON HIERS, M. D.,
SAVANNAH, GA.
CARLTON MITCHELL M. D.
NEW ORLEANS.

Acute Otitis Media, Especially in Children.—In this disease the diagnosis is of prime importance, as shown in an article by W. Cheatham (*Am. Journ. Med. Science,* March 15, 1898). If pus is present in an acute case it must be evacuated promptly, or the child's life is in danger.

After the discharge is established, the less treatment the ear receives the better. Inflations should never be employed, as they force septic matter from the nose into the ear, or from the ear into the mastoid, as shown by B. T. Mouser (*Pacific Medical Journal,* August, 1897). The removal of the matter from the middle ear is impossible if the perforation in the membrana is small; if the perforation is large, the matter flows freely from the drum cavity into the auditory canal, the natural drainage-tube of the middle ear in time of suppuration. At such a time, whether the perforation is large or small, everything dropped or syringed into the ear tends to stem and impede this natural and beneficial outflow and bring about secondary infection of the middle ear and mastoid antrum. I have never yet seen a case of acute mastoiditis consecutive to acute otitis media that was not the artificial result of medication applied, often by the patient or his friends, sometimes by his physician, to the primary otitis after the membrana had ruptured and discharge had set in. This discharge is beneficient, as it carries off pathogenic germs, and is no more to be checked than the resolution of a pneumonia is to be stayed. We favor expectoration in the latter case; we do not syringe and swab and medicate the mouth, pharynx, nor trachea. We should favor the aural discharge by not impeding or risking the impediment to its escape by the auditory canal. Hence, the safest plan is to apply nothing, either wet or dry, to the auditory canal when the discharge sets in from the acutely inflamed middle ear.

The pus in such cases is something like a foreign body; it will not reach the brain, unless pushed there by artificial means, too often called medical treatment. The proper time to syringe the acutely inflamed ear is before rupture or paracentesis of the membrana, so that when discharge does set in it escapes into an aseptic canal, free from staphylococci, the chief elements in the induction of secondary infection and chronicity.

Acute inflammations of the middle ear having been diagnosed, dry heat should be applied over the ear. This often brings about resolution. All forms of instillations should be avoided. They are rarely endured by the inflamed ear, and they may excite further inflammation. If pain increases under dry heat, and spontaneous rupture is delayed for six or eight hours, then there is only one thing to do, viz., incise the drum membrane at its most inflamed and protuberant point. This may be done under general anæsthesia, especially in a child, if its general condition permits. But if the surgeon knows how to do it, it is not a painful operation. Scraping the auditory canal in performing paracentesis is more painful than paracentesis itself, as the membrana is not as sensitive as the skin of the auditory canal. The discharge may not flow copiously for an hour after paracentesis, especially if the latter has been delayed until inspissation of secretion has occurred. After paracentesis or spontaneous rupture and the occurrence of discharge from the ear, let the ear alone, so that it may drain itself. Matter as it appears at the meatus may be gently mopped, not swabbed, away with absorbent cotton or sterilized gauze. Swabbing irritates the canal and causes furuncles. Syringing is rarely, if ever, demanded, and peroxide of hydrogen *never*.

If these latter applications are made to the acutely inflamed ear, mastoiditis usually results, and hence the large and increasing numbers of reported cases of acute mastoiditis secondary to acute otitis. If syringing and the use of peroxide of hydrogen are avoided, especially the latter, there will be no mastoiditis consecutive to acute otitis media. The former lesion is purely artificial and unnecessary, according to my experience.—ED.]

[I prepare to make a free opening in the membrana timpani as soon as pus is shown to be present, and if it is found to be viscid, I do not hesitate, or rather, I prefer to use hydrogen dioxide to remove it; after which I am partial to iodoform or bichloride gauze, as a packing for the external canal; and in many cases where the pus refuses to flow freely, I have treated the ear by sponging with a tepid solution of boric acid, and with several years experience in otological practice, I have yet my first case of mastoidictis to occur as the result of the above treatment. In every instance I insist that careful attention be given the nose and naso-pharynx, for so often do we find adenoid vegetation accompaning acute otitis media in children.—H.]

PEDIATRICS.

UNDER THE CHARGE OF

T. PINCKNEY WARING, M. D.,

SUPERINTENDENT TELFAIR HOSPITAL, SAVANNAH, GA.

Treatment of Infantile Syphilis by Hypodermatic Injections of Mercury.—Fedtchenko (*Semaine Medicale*, 1898, No. 9), has made a number of trials of the hypodermatic method of treating acquired or inherited syphilis in children, with very satisfactory results. The solution used was composed of fifteen centigrammes each of benzoate of mercury and chloride oi sodium in fifteen grammes each of glycerin and distilled water. Of this two divisions of the ordinary Pravaz syringe, or one milligramme of the mercurial salt, are given to infants of one month, three divisions to those aged two or three months, four to those aged from four to six months, and five to those between the age of seven months and one year. With children of more than one year the strength of the solution is doubled, and three to six divisions of the syringe injected, according to age. The injection is repeated every three or four days. According to Fedtchenko's observations, this treatment has always been well supported and has never provoked general disturbance, stomatitis or digestive trouble. At the point of injection there has been no inflammatory reaction or induration. The buttocks have been found to offer the most satisfactory region for injection, and four insertions can readily be made on each side, the solution being thrown deep into the muscles.

The therapeutic results have been most favorable. Recent macular eruptions have disappeared after three or four injections, papular and ulcerous syphilides after six or seven, and gummous lesions after nine or ten. The treatment is continued until complete disappearance of every manifestation of the disease, and then suspended for from three to five weeks, after which six to eight injections are made. The child is then kept under observation for at least three months. Relapses have never been observed.—*A. J. M. S.*

A Grave Intestinal Infection of Infancy.—Tommasi (*Journal de Clinique et Therapeutique Infantiles*, 1898, No. 18), describes a grave epidemic disease which he has observed for several years in and about Naples during the summer season. The symptoms in general present the following characteristics: The disease begins with a simple gastro-intestinal catarrh, in which uncontrollable vomiting is a marked feature. The tongue is never typhoid in appearance, and the spleen is not enlarged. Gradually the nutrition fails and the nervous system shows evidences of depression or of excitation (persistent blepharospasm, eclampsia, convulsions of Jacksonian type, mydriasis, myosis, meningism). The fever is of no distinct type; it presents rapid and transitory elevations, sometimes is wanting altogether. Various cutaneous eruptions, scarlatini form, rubeolic or papular in type, with petechiæ or furuncles, have been observed at all periods of the disease and with variable distribution, preferably upon the trunk. Perspiration is abundant, as is also diuresis at the beginning; but later, with the aggravation of the disease, the urine diminishes and eventually is suppressed.

As complications, angina, thrush, broncho-pneumonia and otitis have been observed. Autopsy has shown slight alterations in the intestines, the liver slightly enlarged, the spleen and nervous system normal. The duration is variable and the prognosis is always grave. Hot weather and errors of diet appear to play the principle role in etiology. According to the bacteriological researches, the author concludes that the colon bacillus is the principal agent since it has been found constantly in the stools in large numbers. The variability of the clinical picture depends upon the association with other bacteria, among which are the bacillus subtilis, the proteus, staphylococci and streptococci.

[The author has given a very easily-recognized picture of the grave forms of milk-infection of hot weather, with which all American observers are thoroughly familiar.]—*A. J. M. S.*

COLOR OF NEWLY-BORN NEGRO CHILDREN.—A discussion has been going on in the Continental press as to the color of newly-born negro children, and our contemporary is probably right in stating that not one medical man in a thousand would answer the question correctly. There are obvious social reasons which render it desirable to have definite knowledge on this point. Witness the pictorial advertisement which used to be given away with packets of cigarettes. A negro father was represented in the act of contemplating his newly-born offspring with a dubious expression on his face, remarking, "if this child don't get darker very soon ther'll be trouble in our family." To return to the question, we have it on the authority of Dr. Farabery that the negro baby at the moment of birth is exactly the same color as its white brother, and it shows signs of color only after an interval of seven days, often extending to several weeks.—*Medical Press and Circular.*

[We don't question Dr. Farabery's veracity, but would like to know in what part of the continent he made the above observation; he certainly did not make it in the south. For a genuine negro baby is black before it is born, after it is born, so long as it lives, and dies black. We will admit that in offspring from a hybrid mixture of white and black, producing quadroon, seven-eighths white, or a quinteroon, fifteen-sixteenths white, in such cases there might be marked similarity with a white baby, but it would not take seven days to tell whether it was of white or mixed parentage. If a male child you could tell at once, for if it has negro blood in it, the scrotum and scrotal rophæ will be darker than the adjoining skin.—ED.]

Serum Treatment of Small-Pox, Scarlatina and Whooping Cough.—Dr. C. Kelaidites has obtained excellent results from the treatment of small-pox, scarlet fever and whooping-cough by injections of blood serum from animals to which these diseases had been transmitted by inoculation.

The introduction of pus from small-pox pustules, blood and epidermic scales from scarlet fever patients, and bronchial and nasal secretions from patients suffering from whooping-cough, under the skin or into the veins of a horse (small-pox), a heifer (scarlatina), or a dog (whooping-cough), results in these animals contracting the disease, the virus of which has been inoculated into them. After they have completely recovered, the serum, withdrawn by bleeding from the jugular vein, possesses powerful curative properties.

Two or three injections of from ten to thirty cubic centimetres of this serum, administered as soon as the eruption has made its appearance, at intervals of one or two days, according to the age of the patient and the intensity of the symptoms, is sufficient to check small-pox and bring about a recovery. They immediately lower the temperature, determine copious diuresis, and cut short the suppurative stage.

The same curative effect is obtained from injections of serum in scarlet fever, the desquamation commencing on the second day after the institution of the treatment.

These effects have invariably been observed in some thirty patients, affected with either small-pox or scarlatina.

In whooping-cough he has injected serum from immunized dogs into twelve little patients, the dose varying between five and twenty cubic centimetres, according to age. These injections were followed by gradual disappearance of attacks of coughing, and he rarely had occasion to repeat the injection once or twice, in order to obtain complete recovery. The efficacy of these injections was immediately manifested by marked relief, a tendency to sleep and slight perspiration.

The injections of serum were invariably well supported. Particular attention is called to the fact that they exerted no harmful influence on the kidneys. They were made in the flanks with rigorous aseptic precautions, and as far as possible at a spot where there were no eruptions. In cases of small-pox, the treatment was associated with two baths daily in tepid water, mixed with boracic acid in the proportion of 2 per cent., of a few minutes' duration, and the patients were given milk, broth and slightly alcoholic drinks. In scarlatina frequent gargling with a 5 per cent. boracic lotion was ordered.

Lastly, he has found that the three serums in question possess decided preventive properties for persons subjected to prophylactic injections of from five to ten cubic centimetres of serum never developed either small-pox, scarlet fever or whooping-cough.—*Lancet.*

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ORIGINAL COMMUNICATIONS.

THE HUXLEY LECTURE ON RECENT ADVANCES IN SCIENCE AND THEIR BEARING ON MEDICINE AND SURGERY.*

BY PROF. DR. RUDOLF VIRCHOW,
University of Berlin.

Delivered at the opening of the Charing Cross Hospital Medical School on October 3d.

The honor of being invited to deliver the second Huxley Lecture has deeply moved me. How beautiful are these days of remembrance which have become a national custom of the English people, and through which the memory of intellectual heroes is kept alive to posterity! How touching is this act of gratitude when the celebration is held at the very place wherein the genius of the man whom it commemorates was first guided towards its scientific development! We are filled not alone with admiration for the hero, but at the same time with grateful recognition of the institution which planted the seed of high achievement in the soul of the youthful student.

That you, gentlemen, should have entrusted to a stranger the task of giving these feelings expression seemed to me an act of such kindly sentiment implying such a perfect confidence that I at first hesitated to accept it. How am I to find in a strange tongue words which shall perfectly express my feelings? How shall I, in the presence of a circle of men who are personally unknown to me but of whom many knew him who has passed away and had seen him at work, always find the right expression for that which I wish to say as well as a member of that circle itself could? I dare not believe that I shall throughout succeed in this. But if, in spite of all, I repress my scruples, it is because I know how indulgently my English colleagues will judge my often incomplete statements, and how fully they are inclined to pardon deficiency in diction, if they are convinced of the good intentions of the lecturer. I may assume that such a task would not have been allotted to me had not those who imposed it known how deeply the feeling of admiration for Huxley is rooted within me, had they not seen how fully I recognized the achievements of the dead master from his first epoch-making publications, and how greatly I prized the personal friendship which he extended towards me. In truth, the lessons that I received from him in his laboratory—a very modest one according to present conditions—and the introduction to his work which I owe to him, form one of the pleasantest and most lasting recollections of my visit to Kensington.

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* From the American Medico-Surgical Bulletin.

The most competent witness of Huxley's earliest period of development, Professor Foster, presented in the first of these lectures a picture of the rapidly increasing extension of the biological knowledge, which must have excited not only our admiration but also the emulation of all who study medicine. Upon me the duty is incumbent of incorporating with this presentment the newer strides of knowledge and of stating their influence upon the art of healing. So great a task is this that it would be presumptuous even to dare to attempt its accomplishment in a single lecture. I have decided, therefore, that I must confine myself to merely sketching the influence of biological discoveries upon medicine. In this way also will the example of Huxley be most intelligible to us.

Huxley himself, though trained in the practical school of Charing Cross Hospital, won his special title to fame in the domain of biology. As a matter of fact, at that time even the name of biology had not come into general use. It was only recently, as I showed in my lecture, "On the Position of Pathology amongst Biological Studies,"* that the idea of life itself obtained its full significance. Even in the late middle ages it had not sufficient strength to struggle through the veil of dogmatism into the light. I am glad to be able to-day, for the second time, to credit the English nation with the service of having made the first attempts to define the nature and character of life. It was, as I then pointed out, Francis Glisson, who, following expressly in the footsteps of Paracelsus, investigated the principium vitæ. If he could not elucidate the nature of life he at least recognized its main characteristic. This is what he was the first to describe as "irritability," the property on which the energy of living matter depends. He thus succeeded in setting aside the mystical idea of the spiritualistic Archæus which Paracelsus and his followers had placed in the forefront of their deliberations, and in locating the principium energeticum in matter itself.

How great was the step from Paracelsus to Glisson and—we may continue—from Glisson to Hunter! According to Paracelsus, life was the work of a special spiritus which set material substance in action, like a machine; for Glisson matter itself was the principium energeticum. Unfortunately he did not confine this dictum to living substances only, but applied it to substance in general, to all matter. It was Hunter who first announced the specific nature of living matter as contrasted with non-living. But he also did not attain perfect clearness of vision, because in the development of English medicine the idea had been allowed to take root and grow that life was not bound up with structure, so that Hunter also was led to place a materia vitæ diffusa at the head of his physiological and pathological views. Hence he arrived at the assumption of the so-called plastic substances in respect of which the blood served both as rallying-point and seat of formation, and so it happened that in place of the old Greek humoral pathology which Paracelsus had overthrown, a new humoral pathology arose—hematology. According to the teaching of Hewson and Hunter, the blood supplied the plastic materials of physiology as well as the plastic exudates of pathology.

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* Croonian Lecture, *Proc. Roy. Soc.* Vol. LIII

Such was the basis of the new biological method, if one can apply such an expression to a still incomplete doctrine, in 1842 when Huxley was beginning his medical studies at Charing Cross Hospital. Of pathology in England, John Hunter was the accepted master, and so remained for many years thereafter. So great was his influence that Continental medicine also recognized it. To this I can myself testify, as I was at this time at the end of my university studies. It would lead too far afield were I to recount in this place how it happened that I myself, like Huxley, was early weaned from the pernicious doctrines of humoral pathology; it must suffice to say that salvation lay in the same science which had already once before, in the sixteenth century, brought about deliverance from humoral pathology. It then came about that Vesalius threw over the authority of Galen and founded human anatomy upon direct observation, on necropsy. Since then anatomical studies have been much widened and improved. When Huxley himself left Charing Cross Hospital, in 1846, he had enjoyed a rich measure of instruction in anatomy and physiology. How great this was can be gathered from the interesting statistics which Professor Foster has collected with the aid of Huxley's distinguished fellow student, Sir Joseph Fayrer. Of the lectures which junior students attended, 140 in each of the three years of study were devoted to anatomy and physiology. Thus trained, Huxley took the post of naval surgeon, and by the time that he returned, four years later, had become a perfect zoologist and a keen-sighted ethnologist. How this was possible any one will readily understand who knows from his own experience how great the value of personal observation is for the development of independent and unprejudiced thought. For a young man who, besides collecting a rich treasure of positive knowledge, has practiced dissection and the exercise of a critical judgment, a long sea-voyage and a peaceful sojourn among entirely new surroundings, afford an invaluable opportunity for original work and deep reflection. Freed from the formalism of the schools, thrown upon the use of his own intellect, compelled to test each single object as regards properties and history, he soon forgets the dogmas of the prevailing system and becomes first a sceptic and then an investigator. This change, which did not fail to affect Huxley, and through which arose that Huxley whom we commemorate to-day, is no unknown occurrence to one who is acquainted with the history not only of knowledge but also of individual scholars. We need only point to John Hunter and Darwin as closely allied examples.

The path on which these men have achieved their triumphs is that which biology in general has trodden with ever-widening strides since the end of last century; it is the path of genetic investigation. We Germans point with pride to our countryman who opened up this road with full conviction of its importance, and who directed towards it the eyes of the world—our poet-prince, Goethe. What he accomplished in particular for plants others of our fellow countrymen achieved for animals. I recall Caspar Friedrich Wolf, Döllinger, Joh. Friedrich Meckel, Carl von Baer, and our whole embryological school. As Harvey, Haller, and Hunter had once done, so these men began also with the study of the "ovulum," but this very soon showed that the egg was itself organized, and that from it arose the whole series of organic developments. When Huxley, after his return, came to publish his fundamental observations, he found the history of the progressive transformations of the contents of the egg already verified, for it was by now known that the egg was a cell and that from it fresh cells, and from them organs, arose. The second of his three famous papers, that on the relationship between man and the animals next beneath him, limned in exemplary fashion the parallelism in the earliest development of all animal beings. But beyond this it stepped boldly across the border-line which tradition and dogma had drawn between man and beast. Huxley had no hesitation in filling the gap which Darwin had left in his argument, and in explaining "that in respect of substance and structure man and the lower animals are one."

Whatever opinion one may hold as to the origin of mankind, the conviction as to the fundamental correspondence of human organization with that of animals is at present universally accepted. All biological science, especially physiology and pathology, creates hence the impulse to corresponding studies, and in particular all that has to be based on experiment must in the first instance be investigated in animals, while all that requires morphological confirmation finds support in comparative anatomy, histology and embryology. The basis of our comprehension of the theory of medicine actually rests nowadays on minute microscopy, for the elaboration of which the animal tissues form an indispensable control-object. Suffice it to say that in scientific biology the division between man and beast becomes less and less defined, but only let it be remarked the division between the abstract man and the abstract animal. It is the same relation as meets us in the differentiation between plants and animals. How many definitions of this have been put forth in the course of time, and how one after the other has been wrecked! But if we place a given animal and a given plant side by side, we overcome the difficulties which we had only raised by our own definition.

The greatest difficulty in biology has arisen in this way—that mankind, following a natural tendency, has set the search after the unitary basis of life in the foreground of its consideration. As a matter of fact, what is more natural than the conclusion that life as a special phenomenon must also have a special basis, and that the material process of life must be derived from a common cause? During the last century an attempt was made to satisfy this claim by the assumption, with ever-increasing conviction, of a special force—vital force. Nowadays we can still perceive the logical errors which this assumption rendered possible. Time has, however, passed judgment upon it, and to-day no one continues to speak of vital force. And yet the necessity for a single basis of all vital manifestations remains. How is this to be satisfied? This is a question which is not alone of great theoretical interest, but which has become an indispensable foundation for practical work, and particularly for medical practice. But in order to reach this foundation it is first of all necessary to dispense with all the dogmas of the schools, and to seek to construct an objective picture of the nature of vital processes.

As regards material construction, man and the higher animals and plants are no unitary, simple beings; on the contrary, they are put together from many units. They are hence called organisms. If they possessed but one single power which set all their parts in action, it would be impossible to understand how the special kind of activity which each one of these organisms exercises in its individual way comes about. This specific activity is present in the organism not alone in its perfect or fully grown form, but also during its development and growth. How can a single power, whether we call it in the spiritualistic sense spirit, soul, spiritus rector, or, in the physical sense, vital force or electricity, build up such diverse organisms? Or if this power resided in a single organ—were it in brain, or spinal cord, or heart—how could those brainless and heartless creatures be explained which present so abnormal a condition that at the beginning of this century they were the proper battle-ground of the mystics?

There is here, in my opinion, only one solution possible. The life possessed by the higher organisms is not a single one. Their life and all their activities only become intelligible when we go back to the exact representation, based upon a kind of instinctive observation, of the life of their parts. Each constituent part of a living organism has its special life, its vita propria. No one of the older authors proclaimed this more distinctly than Paracelsus. But he at once undid this good idea again by attributing to each living part a particular spiritus, a special Archæus. The best of the succeeding biologists were also held by this notion as in a snare; instead of busying themselves in the observation of vita propria—that is, the action of the parts—they continued to devote themselves to research on the Archæus.

The advances in general science based upon personal observation, and particularly those in medicine, have completely turned the attention of true observers to the study of individual parts. As I pointed out at the Medical Congress at Rome,* it stands most clearly revealed in the history of pathology that the division of the body first into larger regions (head, breast, abdomen, etc.), then into organs, then into tissues, and finally into cells and cell-territories, was the first step which opened up to us the comprehension of disease. The study of regions was followed by that of organs, and this again by that of the tissues, and finally by the cellular theory. But what is true of pathology must hold also for physiology, and, as a matter of fact, physiology has passed through the same developmental phases. One gradually comes to understand that the life of the individual parts is perfectly clear if one looks away from the Archæi of the organs or the tissues, and keeps in view only the life and activities of the single cells. For the life of an organ is naught else than the sum of the lives of the single cells which are gathered together into it, and the life of the whole organism is not an individual but a collective function.

If such a collective being is analyzed, no matter whether it be the whole organism, or a single organ, or only one tissue which is presented in its vital activity, the first requisite for a correct interpretation is that one should discard the fabled unity, and should regard the single parts, the cells, as the factors of existence. Single cells can be separated out even in a complex organism, but we should with difficulty arrive at a satisfactory theory if we did not also meet with single free-living cells in Nature. These have provided the first basis for objective investigation. Unicellular plants and animals have, during this century, been continually more fully and better studied. Botanists and zoologists have become the teachers of physiologists and pathologists. The ova of animals and the corresponding germ-cells of plants have bridged the gap between isolated living cells and higher organisms. It was the recognition of this fact which first raised the famous theorem of Harvey to the high position which it merits.

In a medical school, where the teaching is almost entirely concerned with human beings, we might put this sentence at the head of the lesson: "The organism is not an individual but a social mechanism." An exact anatomical analysis of this mechanism always brings us at last to cells; they are the ultimate constituents of all tissues as they were their origins Hence we call them the living elements, and hence we regard them as the anatomical basis of all biological analysis, whether it has a physiological or a pathological object in view.

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* Morgagni and Anatomical Thought.

In relation to this, two propositions must be stated: (1) That every organism, like every organ and tissue, provided it is alive, contains cells; (2) that the cells are composed of organic chemical substances, which are not themselves alive, but the mechanical arrangement of which determines the direction and power of their activity.

The first proposition has of late slowly come to be realized. Schwann, who recognized the origin of tissues from cells, still clung to the opinion that in the further development of many tissues the cells were used up. Among these he reckoned that important group which has subsequently become known as the supporting tissues, because it insures form and stability to single organs, and to the whole organism. First among these stand the osseous and connective tissues, which also form so large a fraction in the quantitative constitution of higher organisms. The conception of the osseous and connective tissues as free from cells must now be given up. Where formerly only empty spaces or mere leaks (lacunæ, holes) were seen in the tissue, we now can demonstrate actual cells. We can even isolate them. Hence it is now desirable that the name "tissue," in the sense of living tissue, should be applied only to such parts as contain living cells. Outside the cells the tissue may contain a more or less rich share of organic (chemical) material, but this intercellular or extracellular substance must be regarded as an additional endowment, and not as a vital factor. Such parts as arose originally from living cells, but of which the cells have perished, must be excluded from biological consideration. As examples may be adduced the epidermis and the hair belonging to it, together with the enamel of the teeth. These consist in reality of dead tissue.

As regards the second proposition that no living organic chemical substance exists, the fact has been objected that all living matter is put together from organic chemical materials; but whoever raises this point must have well-nigh overlooked the fact that these two kinds of substances, the living and the non-living, cannot be identified with one another. In spite of chemical similarity, or even correspondence, they exhibit recognizable differences, not alone physiological, but also mechanical and physical. Thus since the application of dyes has secured us a glimpse of the variety of the finer mechanical, or if one may say it molecular, arrangements of matter, it has become possible to differentiate living and non-living parts de visu. We are admittedly only on the threshold of these investigations, but the latest researches upon ganglion-cells have shown that, even beyond the effects of staining, differences between living and no longer living parts may become optically recognizable.

The enthusiasm with which for centuries the doctrine of formative principles and nutritive materials was built up has already become much abated, and has, in part, been entirely abandoned, through the knowledge that no single chemical substance, no kind of nutritive or formative material which can be employed as such, and without further change, for the origination or formation of cells, has ever been found outside the living organism. And yet a chemist of Liebig's importance actually believed that fibrin could be conveyed directly from the meat consumed into the juices of the body, and thence deposited in the tissues. This was a misconception—a relic from the time of the old humoral pathology—which regarded the living body and its constituent parts as arising simply from the coming together of a few ground-substances (humores cardinales). Hence arose the doctrine of plastic materials which were pre-existent in the food and blood. With an obstinacy which was only surpassed by their superficiality, these theorists remained convinced that the plastic materials as such effected the construction and maintenance of living matter. They failed to see that the nutriment taken in had first to be prepared by special juices secreted by the cells of the digestive organs, and that both the digestive material and the plastic substance of the blood were rendered assimilable only by means of a new change, which had to be effected by the agency of the tissue-cells.

The doctrine of plastic material appeared to have gained new strength through Schwann's cell-theory. One must be careful not to misunderstand this designation. Since the cellular theory of animal and plant life has been established, many have maintained that Schwann's cell-theory is identical with it. Not only is this not the case, but the two stand in exact opposition to one another. Schwann assumed, and believed himself to have directly observed the process, that cells arose in undifferentiated matter, in a fluid or a semi-solid mass, in the following way: First, small particles of a firmer kind were separated off, then these came together into little heaps or clumps, by the internal transformation of which a cell-nucleus gradually arose. Round this a new precipitate of firmer substance now slowly accumulated, and from this arose the body of a cell. Hence the original amorphous substance would be the special constructive material, while the nucleus was the true cell-builder; Schwann called the former cytoblastem, the latter cytoblast.

It is obvious that from these premises people must have been logically led to the conclusion that every form of organic tissue or organism, every kind of new cell must be separated from the preceding by a definite gap (hiatus), so that each new formation must be grouped as a discontinuous vital origin. Strangely enough, this classification arose and was accepted at a time when Darwin was already at work proving that new species arise by the modification of pre-existing forms. But Schwann's cell-theory was in truth a resuscitation of the archaic doctrine of spontaneous generation (generatio æquivoca, epigenesis). With the rule of such a creed Darwinism was incompatible.

The supports of this generatio æquivoca have been, as far as zoology is concerned, gradually demolished. The formation of tissue-cells from the egg and its partition has been observed throughout the whole animal kingdom. Apparently eggless animals, such as the cestoids and trichinæ, have one after the other been brought under Harvey's law; we know their eggs, their embryos, and their wanderings. There remains, in fine, but one great domain, though this is of the highest importance: it belongs particularly to pathology, and is that of the plastic exudates, which accompany the most important clinical processes, particularly the inflammatory.

It will readily be understood that so essentially pathological a subject would have but little interest for pure natural philosophers. They left it to medical men, who have to occupy themselves with it all day long. But in medicine this territory was held sacred; no one doubted that therein spoke old, well-attested experience. We old students were endowed with the so-called theorem of the plastic exudates from our earliest studies. Translated into our latter-day parlance, such a theorem would recognize discontinuity in most pathological new formations; it would establish—and this is well worthy of note—the grounds for the dogma of the origin of life from non-living matter. Experience has taught us the exact opposite.

Permit me here, gentlemen, to speak a little more personally than is elsewhere my intention. Perhaps it will be more intelligible to the students of this hospital, and will make more impression if I narrate how I myself arrived at quite other views.

It was towards the end of my academical studies, more than fifty years ago, that I had to take up the work of assistant in the ophthalmic clinic of the Charité Hospital at Berlin. My attention was at once directed to the diseases of the cornea. We had severe cases of keratitis, but I saw in them no exudation; numerous cataract operations were performed and the wounds closed, but not by plastic exudation; this was absent from all corneal scars. Could this be explained by the circumstance that the cornea, apart from its circumference, is a non-vascular tissue? My interest was at once focussed on the non-vascular tissues. I turned first to the articular cartilages, and behold, here also I found the greatest changes without the presence of exudation, or, at any rate, of plastic exudation. I need only recall the form of inflammation which I named arthritis chronica deformans, and which is described by French physicians as arthrite sèche. My experimental studies on the inflammation of the walls of blood-vessels showed that the equally non-vascular intima of the larger arteries, and in part also that of the veins, can undergo great changes without even a trace of exudation being produced. Later on anatomical investigations on endocarditis led to the same result, provided that parietal thrombi were not regarded as exudations. But in all these cases and in every place there were found changes in the tissue-cells, active such as swelling, multiplication of nuclei, etc, or passive, as fatty degeneration.

I next turned my attention to vascular organs, and in particular to those which were recognized by pathology as the common seats of exudation-processes. I refer, first, to the medullary infiltration of the lymphatic (follicular) tissue of the intestine and mesenteric glands in typhoid fever so strikingly depicted by the Vienna school: instead of the amorphous albuminous exudate which was described, I found only cells, and cells of the same kind as those which are normally present in these situations. The same was revealed in the so-called caseous exudates which were at one time ascribed to scrofula, at another to tuberculosis; the cheesy material was admittedly in the main amorphous, but it was in reality not an exudation at all, above all, not a primary product of disease, but rather the secondary product of degenerative necrobiotic changes in parts of the tissues, which had formerly been organized and not infrequently actually hyperplastic.

It is not necessary to go further into details in order to show how great is the realm of this pseudo-exudative process. But I cannot help referring to another series of morbid processes affecting the bones. It was whilst studying rickets that I first learnt the biological significance of the cartilage-corpuscles, the nature of which had till then been interpreted in very different ways. I believe that I was the first to distinguish in these corpuscles what must be actually recognized as cells from the merely capsular and extracellular coverings. The rachitic disturbance now brought into fullest evidence an appearance which was repeatedly misunderstood even by later observers; this was the increase of these cells by division, and the consequent growth of the cartilage.

It was not difficult to follow out the direct transition of the epiphysial cartilage into the periosteum of the neighboring bone, and thus into connective tissue. At this time the whole world was convinced of the correctness of the statement made by Duhamel that increase in thickness in the long bones was affected by the periosteal vessels exudating a nutritious juice, out of which the new bone substance was formed. Pathologists had extended this formula to periostitis and the formation of exostoses and hyperostoses; they assumed that between the periosteum and the bone a plastic exudation was excreted and stored up, in which the new osteophyte arose by secondary organization. The consequence of my investigations was that in not one of these spots, neither in the cartilage nor in the periosteum, neither in normal growth nor in rickets or periostitis, was organization preceded by the presence of a recognizable amorphous exudation. On the contrary, it was indubitably shown that the first stage of the changes was an active productive process of cell-multiplication; that at the same time the intercellular substance altered in character and underwent a series of successive changes till it assumed an osteoid appearance; and that then, and not till then, followed calcification and true ossification. There was also no difficulty in adducing the proof that the separate stages of these processes in cartilage and in periosteum ran a perfectly parallel course, although the new tissue was in the one case at first true cartilage, in the other only cartilage-like. If one wishes to designate this process in general it must be called proliferation. Most of these processes are of the nature of proliferation. Whoever calls the proliferative layer an exudation will never obtain an objective view of the actual proceeding.

There is thus not the slightest necessity for the genuine observer to hold to the arbitrary and totally erroneous formula of a plastic exudation. There is no such thing as a plastic exudation which is ever simply amorphous; the cells which may be found in it have not arisen there. With this proof, which can be obtained in numberless other places, the doctrine of the discontinuous origin of pathological new formations is set aside. Every such new formation presupposes a tissue from which its cells arise; this is its matrix. There is no difference in principle between the descent of men and animals from one mother and the descent of pathological new formations from one matrix. Pathology has been somewhat late in arriving at the knowledge of this correspondence, but I think that it has acquired especial value for biology in general.

In order to avoid misunderstanding, it may be noted that not every living cell is capable of becoming a matrix. All cells which are destined for the highest animal functions prove sterile, or at least very hypothetically capable of proliferation. Ganglion-cells, primitive muscle-bundles, red blood-corpuscles do not come under consideration as regards the theory of pathological descent. The more indifferent cells, on the other hand, above all those of cartilage, connective tissue and epithelium exhibit a marked proclivity to bring forth new cells. Many cells again, such as bone-corpuscles and fat-cells, require a special preparatory metaplastic stage before they can produce a new brood.

Proliferation is an active property of special cells. That it cannot be performed by all cells alike in no way alters the fact that it can only be performed by cells. It is just as little a function of an entire organism, for this itself would then have to be unicellular. In this property lies the explanation of the origin of a whole organism from a single egg-cell, that wonderful process which comes to pass but once in the life of an animal. Once tissues have arisen, each cell of a matricial tissue may, in respect of proliferation, be compared to an ovum; it brings forth a new progeny from which new tissue grows. This tissue bears, as a rule, the stamp of its matrix—it is built on the maternal type. This is the nature of descent, and herein lies the key to the knowledge of heredity, that puzzling appearance with which mankind has ever busied itself.

According to the humoral theory heredity was derived from the body-fluids and in particular from the blood. According to this idea the blood furnished the means of the continuance of the family and the race; blood-relationship explained the similarity not only of the juices but also of the organs and the whole body. The blood according to its nature determined the goodness or badness of the organization; noble blood generated noble men and healthy organs, bad blood a debased posterity and organs predisposed to disease. In scientific works naught remains of these fantastic surmises; they persist like a superstition in lay circles, but no one now maintains their correctness in serious debate. In their stead has arisen the recognition of the particular value of the mother tissue and its cells. These are the factors of inherited properties, the sources of the germs of new tissues and the motor power of vital activity.

During the development of a higher organism the constitution of the individual tissues changes; they become differentiated by means of metaplastic processes which are in their turn connected with cells and cell-territories. Thus it comes about that people have for ages spoken of dissimilar parts. The complete full-grown organism is built up of similar and dissimilar tissues; their harmonious working gives the impression of a unity of the whole organism which is, as a matter of fact, non-existent. For the further the organism develops the more its social constitution comes into evidence. It consists of innumerable independent parts which together constitute a single social body. If we take the ultimate elements of these parts we must call them all without exception cells, for cells alone are truly alive and scientific judgment is in the last instance concerned with them.

So little is the whole organism a definite unit that the number of its living constituents is in the highest degree inconstant. Looking at the gross structure of organs we are accustomed to regard a certain number of them as typical peculiarities of human beings or the various genera and species of animals. We expect to find two of each paired organ and one of each unpaired in a single individual. Man, like all other mammals, has a fixed number of bones and teeth and these numbers are rightly used as diagnostic of man or of the particular variety or species of animal. But these numbers form no essential condition of existence; a man with six fingers or seven toes remains a man, just as a lung with supernumerary lobes or a kidney with an excess of coni medullares remains a lung or a kidney. A woman with three, four or even more mammary glands is thereby no more a lower animal than a man with a tail would be. These are theromorphs ("sports") which can have no influence on our opinion as to the sex of the affected individual or its position in the animal scale.

But it will be a long time before general opinion on the significance of "sports" will, even among experts, become unanimous. One sect will connect them with descent, and see in them a proof of atavism; while the other will regard them only as a pathological formation, and will trace this back to an acquired lesion. During the last century we have gone through violent disputes as to whether certain malformations were inherited or acquired. Those who pinned their faith to inheritance had very generally the arrière pensèe that the variation was atavistic, and the question soon presented itself as to whether the atavism was derived only from human ancestors, or whether one would have to go back as far as the lower animals to account for it. A universally valid explanation of theromorphism has not yet been found. In my opinion it will never be found. Each single example must be separately studied and explained, and the general value of this explanation will be by no means increased if we find atavism in any single case. Doubtless an acquired variation can also be transmitted, and the circumstance that it is animal-like (theroid) does not go to prove a not acquired but atavistically transmitted condition. In connection with this I may refer to my paper on Race-Formation and Inheritance.* I can here discuss only the principal ground for the disputes regarding hereditary diseases which are special to pathology.

Medical men are accustomed to describe as hereditary all diseases which reappear in different generations of the same family. Thus one speaks of hereditary arthritis, hereditary tuberculosis, hereditary cancer. It is in fact not difficult to produce genealogical tables which demonstrate the recurrence of a paternal or maternal disease in children or grandchildren. Much trouble has been devoted, in my opinion without result, to seeking the germs of such diseases in the ovum or the semen. One is hence compelled to pass on to generations of cells which took origin after conception. Here we reach what Roux has designated the post-generative formations. The further we pass away from the time of conception the more numerous examples do we find of alterations in the formation of cells and in the formation of embryonic tissues. But there is at the same time the greater possibility of the alteration having arisen after the formation of the first cells, and hence that the existing cause may have commenced to act at that time. If we set aside this possibility nothing else remains but to assume that from conception, or even from the organs which produced the ovum or the spermatozoon, a predisposition is transmitted which is already present in the earliest cells, even if it cannot be recognized in them.

Upon this theory are built up all interpretations of the inheritance of pathological and, we may add, physiological structures. There are, for example, many extraordinary anomalies in the disposition of hair, either through excess or through defect, and nothing is more common than to see the inherited transmission of such anomalies. But hairs are post-generative structures, and a disturbance in their development can make its first appearance only in a latter period of fetal life; not infrequently, indeed, it is first seen after birth. If such a peculiarity recurs through many generations in the branches of a family or a race it is called hereditary, and referred to a hereditary predisposition. But as undoubtedly excesses as well as defects in hairiness are brought about by acquired disturbances, such as actual diseases, it becomes necessary to seek a recognizable cause for such great anomalies as well. If such an one is found, the aid of a predisposition need not, as a rule, be invoked; one may be quite contented with the cause, which is then the causa efficiens.

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Very recent medical history affords the most striking example of a rapid and comprehensive change in opinion regarding a disease formerly regarded as hereditary. Leprosy has for thousands of years passed as a contagious disease. But when about a generation ago the number of lepers in Norway increased to an astounding extent, and one family after another was seized with the malady, the question once more came up as to its hereditariness. Zealous investigators ransacked genealogical tables and church-registers, and families were discovered in which leprosy had persisted for decades, or even centuries. So universal was this conviction that the Government, with the consent of the clergy, wished to promulgate a marriage-forbidding decree; only a small majority in Parliament threw out the proposition. I was then requested by the government to travel through the leprous districts and to make a report; I succeeded in collecting a certain, though small, number of indubitable cases in which all suspicion of inheritance could be excluded. These were in particular persons who came as healthy adults from quite leprosy-free neighborhoods into the infected districts, and after a long sojourn there developed leprosy.

A few years later Armauer Hansen discovered the leprosy bacillus. Medical opinion changed in a moment. The venerable idea of the contagiousness of the disease was revived. Inheritance was denied and predisposition vanished from the treasure-house of dogmas. I will not assert that the grounds for embracing the present view are absolutely convincing, but I am positive that it is far to be preferred to the dogma of inheritance. And it is an experience instructive to all of us that one single fact, the discovery of a causa viva, should have sufficed to dash down the apparently best-grounded theory. The safely established recognition of a known cause has at once converted leprosy from an inherited into an acquired disease.

A similar thing happened a few decades earlier with two skin-diseases which were, according to the views of humoral pathology, traceable to a change in the blood, a dyscrasia, namely tinea (favus, porrigo) and the itch. The first actually bore the name of tinea hereditaria, or in German erbgrind. But the microscope revealed to Schönlein that favus arises from a mycelial fungus, and as regards scabies the popular Italian view was confirmed, namely, that a mite (Acarus sarcoptes) was its cause. So unstable are the most plausible theories in the light of an objective, practical knowledge.

Exactly the same experience has been met with in relation to certain diseases of the hair. When fungi were found on the hairs, no one cared any more about predisposition, although this possibly does occur. It is certain that there are parasitic forms of alopecia. But fungi cannot be found in every case of alopecia. Still less is this the case in anomalies of the hair associated with excessive growth. Here no other explanation is possible, except the assumption of a predisposition. This holds equally for hirsute races and for families of hairy men, as well as for those single hairy cutaneous patches (nevus pilosus) which are regarded as hereditary. The factors in the predisposition are the hair-roots, and moreover those which, although arising during fetal life, belong also to the post-generative group, since they are called later into increased activity.

The general cutaneous covering, in brief the "skin," although doubtless a kind of unitary structure of a generally similar type, is nevertheless in a double sense a socially constituent organ. Not only is it composed of numberless independent cells and cell-territories of dissimilar kinds; apart from the vessels and nerves of the connective tissue, the cutis proper, and the horny epithelial tissue, which forms also hairs and glands, the individual constituents of the skin have a special disposition and are exposed to various external and internal influences. This is best shown by the numerous morbid states to the definite scientific classification of which English dermatologists so early devoted themselves. The existence of maculæ, papules, pustules, and all the various other kinds of skin-spots, is demonstrated by the fact that in the skin a large number of little communities may be noted from the first as independent or hereditary factors of a particular predisposition. When mothers' marks (nevi), hairs, or even spines grow from them, it follows that in spite of their common origin there must exist a lasting difference between the various localities.

There is another highly remarkable question which every year claims the attention of medical men more and more; this is what was described in the old medicine as aberratio loci, in the new as heterotopia. It has long been known that hairs are present, not alone on the external skin, to which they properly belong, but also in internal organs where they are quite out of place; and further, that other cutaneous structures, such as epidermis, sebaceous glands and cutis appear in such places. We unite this whole group under the general term "dermoids." Modern histologists have long struggled against this theory of aberration, but they have finally had to quit the field, and the view has become dominant that, as a matter of fact, even in fetal life smaller or greater rudimentary fragments can be separated from their natural places of abode, and removed to other spots, where they, so to speak, find a new home, and can undergo all the further changes which are dependent on their cutaneous nature. It is thus that cysts and other tumors can arise from them.

The most remarkable examples of such heterotopias are afforded by certain glandular organs which, under normal conditions, present communities of similar parts arranged in special divisions. Among them a high place is taken by two organs which have recently demanded much attention, the thyroid and the suprarenal glands. On their surface may often be observed the pushing forward and progressive isolation of separate parts in the form of nodules or small lobes. But occasionally these nodules pass completely out of association with the main body of the gland, and are found disconnected in a perfectly strange place more or less removed from their seat of origin. The farthest journeys are those of the broken-off nodules of the supranels; their wanderings lead them to neighboring spots on the kidneys, or even into the interior of those organs, and in other cases over the kidneys into deeper parts of the peritoneum as far as the pelvis. And at all these places they may undergo further change, thus affording starting points for tumor-formation.

The same wandering has long been known in respect of teeth, and one knows that large tumors can arise from misplaced tooth-germs. The like holds with regard to cartilages, in which similar separations are noted in fetal life. The history of rickets has shown that islands of cartilage which were originally connected with the primary cartilages of the epiphyses or diaphyses come later in the course of bone-growth to lie in the interior of the bones, completely separated from their matrix. From them may arise other new formations such as enchondromata and osseous cysts. Extraordinary, even astonishing, as many of these cases are, they lose the character of perfect strangeness which they exhibit on superficial examination when we recall a frequent heterotopia which was produced at first rather by accident, then in surgical practice, and finally experimentally, and which is known by the name of transplantation. Since the grafting of pieces of the epidermis has come into use in rhinoplasty, and has been applied, often with great success, to the healing of refractory ulcers, it is no longer surprising to think that living pieces of tissue may continue to exist in unwonted situations, and can there undergo further development. Experimentally—and this has also become important in surgical practice—the first place under this head is taken by the transplantation of periosteum, which can be carried into every possible corner of the body, even through the circulation into the lungs, and which in all these places conserves its vitality and also its power of serving as a matrix for osseous tissue.

In my opinion, the bearing of these observations upon medical theory has been overrated, in that a property possessed by the transplanted tissue, to wit, the property of forming a tumor by proliferation, has been applied to the explanation of tumor-formation in general. This is a mistake. Transplanted issue has no fresh properties beyond those of the mother tissue from which it is separated.

That a sarcoma can arise from a nevus is only possible because the latter is a part of the skin, and because the skin itself can also produce sarcomata. A cartilaginous tumor can arise from an aberrant piece of cartilage in the middle of a bone, and give rise to an enchondroma, but it may also grow out as a simple cartilaginous hypertrophy (ecchondrosis) from permanent cartilage. A dermoid cyst can serve as the basis for the outgrowth of a cutaneous horn, but cutaneous horns and spines can also grow out of ordinary skin. In each of these cases there is only the realization of a possibility of formation which is present in the matrix in general. At the same time each of these cases illustrates the law of the vita propria of the tissues and of their activity linked to this life.

It is not without great scientific and practical interest to reflect that these observations illustrate another ancient doctrine, the doctrine of parasitism. This doctrine also is traceable back to Paracelsus, who wished to have disease in general regarded as a parasite. One century after another spread this theory abroad, or at least kept its memory green, although there is a fundamental error of logic in assuming the universality of parasitism. For if the living organism is constituted by separate and independent living parts, each of which nourishes itself, and of which most can propagate themselves and perform their special functions, each one of these individual parts must occupy the position of a parasite with respect to the others; it lives on and lessens the common stock of nourishment. The generally accepted view regarding parasitism postulates at the same time the harmfulness of this condition. In reality, every part is endowed with individual life so that it can act prejudicially on the remainder of the organism if its activity becomes excessive or defective. A nevus that becomes a sarcoma can assume a really hurtful significance. Hence it is requisite to remove the sarcoma, but it is not advisable to remove every nevus. Only an excess of caution can lead to an operation which finds its sole excuse in the possibility that nevus can conduce to the formation of a sarcoma. In like manner every excessive proliferation (luxuriation) can act harmfully; it may then be described as malignant. But many proliferations are useful, benign or even salutary, as, for instance, the scars which cover a loss of substance. It is just for the sake of a trustworthy prognosis that one must be extremely careful in the application of designations which group whole categories of morbid processes under a common aspect.

The idea of parasitism which we have here discussed in regard to the relation between different parts of the same organism, fits in much better where living organisms of a different variety or species enter into an organized corporation, and continue their special life in commensalism. The animal parasites, which exist as entozoa in man and other animals, have been longest known. Since the end of the last century our acquaintance with these entozoa has greatly broadened. Many structures which were formerly regarded as mere bladders (cysts) have been recognized as cestoid worms (entozoa cystica). The trichinæ, apparently sexless animals living in the interior of muscles, were first discovered in this century at Edinburgh; later experimental research succeeded in proving that after the consumption of infected meat these little worms rapidly became sexually ripe in the bowel, and produced not alone ova, but also living embryos and larvæ. Thus one comes to the worms which live in the blood, distomata and filariæ, and which later wander into the tissues. They all have a period during which they have their dwelling as organozoa in the midst of the living tissues of the organism, and become so perfectly incorporated that they carry on their own lives just like the proper cells. Quite new and pertaining exclusively to the investigations of our own time are the parasitic protozoa, beings of so rudimentary a kind that their position in the biological system is even yet not quite clear. Chief among these are the protozoa of malaria, quite microscopical organisms, many of which are such pigmies that they can penetrate into the smallest cells, such as the red blood-corpuscles. The darkness which for thousands of years had enveloped a group of most dangerous diseases—the tropical fevers—has been dispelled by the discovery of these tiny creatures. Important links in the history of these parasites are still wanting; we know nothing definite as to their origin or their career outside the great organisms which are their temporary dwelling-place, and nothing also as to their mode of action within these organisms, but we hold the threads by means of which perfect knowledge must be attained.

Lastly comes the equally new field of microscopic plants which appear sometimes as mere grains (cocci), at others as minute rods or chains (bacilli), and from which many of the most severe diseases, the élite of the parasitic infectious maladies, take origin. Their recognition began with the study of two very great and most widely spread processes, fermentation and putrefaction. It will ever remain the imperishable merit of Pasteur, not only to have firmly established the dependence of these processes on the activity of microbes, but to have elucidated the further life-history of the germs and their power of producing active chemical or physico-chemical substances. Here for the first time were subjected to experiment parasitic beings which live and carry on their work outside the organism. Hence has been attained the wonderful result which has unlocked new methods both in medicine and in technical science. Above all, the results of microscopical research have been supported by trustworthy experiments, and their significance raised above all doubts; hence pathology in particular has won in directions which had hitherto been shunned by all who studied the nature of its processes, a clearness and certainty which has been reached in few other fields

The first great stride in the special domain of pathology was made in veterinary medicine. The discovery by Brauell of the anthrax bacillus opened the long series of new, and as we now call them, pathogenic, bacilli. It would lead too far afield to refer to all of these, or even to enumerate them; it must suffice to mention the two severest diseases, the dreadful effects of which are accounted for by the action of bacilli—tuberculosis and Asiatic cholera. In both cases it was Robert Koch who was fortunate enough, by means of careful, and in part very delicate, procedures, to demonstrate the constant presence of certain bacilli in the organs of patients. At the same time it became plain that, in spite of the presence of bacilli in both diseases, a totally different kind of infection could be recognized in the two; thus, while tubercle bacilli invade the organs, and therein exhibit their deadly action, the cholera bacillus remains almost exclusively in the intestine, and develops more after the manner of an infusorial plant.

For our discussion to-day it is inadvisable to go into minuter details. Only a few of the greater landmarks can be referred to. One of them I will mention but briefly, as I have written many long papers upon it: the necessity for distinguishing between the cause and the essential nature of infectious diseases. Parasitic beings, including, of course, bacteria, are never more than causes; the nature of the disease depends upon the behavior of the organs or tissues with which the bacteria or their metabolic products meet. From my point of view this distinction is of cardinal importance.

Both my other landmarks require somewhat fuller statement. The first is the general relation of the smaller parasites to the diseases determined by them. Under one name, which reaches back even into the old days of humoral pathology, and which I was the first to introduce into common parlance, are grouped all the processes which are produced by the invasion of morbid substances, under the general designation of infection. The Latin inficere means as one should say to "dirty." The polluting substance (res inficiens) has been called for ages dirt, impuritas. The products of putrefaction (materiæ putridæ) served as its prototype. In Greek they were called miasms (from μιαίνω, inficere), so that these latter names were applied chiefly to such uncleanness as had been produced outside the body. That which had arisen inside the human or animal body was called contagium. Both miasmatic and contagious substances produced by their penetration into the body severe attacks recalling poisoning. To distinguish such a substance from a true poison (venenum) it was designated a virus. The relationship between infection and intoxication was presumed, but it was not without good reason, considering the origin of the impurity, that the difference in designation was retained.

Among the innumerable infectious diseases it was the contagions which, owing to the associated danger to health and life, not for individuals only, but for numbers of men and animals, came most prominently to the front. Thus the remarkable property was observed in contagia that they multiplied in the body, and so besides infection as such produced an immeasurable quantity of fresh virulent substance. In this respect they approached living beings, and the thought arose that they themselves were alive (contagia viva). With the discovery of parasitic animals and plants this conjecture soon became a fact. Nothing was easier than to generalize this fact and to assume the presence of independent organisms in each contagious disease. The younger generation of doctors and students disregarded with fiery enthusiasm the necessity of a practical proof, and was filled with the conviction that all infection depended on the invasion of parasitic organisms. And since it was just the severest infections which were produced by the minutest plants and in which bacilli and cocci, or as they are called for short, bacteria, were found in greatest abundance there was circulated for some time that beatific axiom, "Infection is pollution by bacteria."

It was known, however, that parasitic animals and protozoa can also give rise to infection, and that between bacteria and fungi there is more than a slight difference, but for convenience the name of bacteria is retained as a general designation. Further, a peculiar circumstance happened in that for most of the so-called bacteria there were no botanical names. Owing to the novelty of the circumstances in which they are placed, botanists have not even yet succeeded in their customary duty of giving every new' plant its special name, of determining its genus and species, and of assigning it to its proper systematic situation. This can easily be understood and forgiven. But it does not in any way alter the erroneousness of a method which attributes every impurity to bacteria on the sole ground of its contagiousness. It may be said that a contagious disease affords suspicions of a bacterial origin, but it should not be called simply bacterial. To do so hinders further research and lulls the conscience to sleep.

Some of the most important contagious diseases have succeeded in resisting the struggle to find in them a parasitic contagium. For example, many have been the sanguine hopes of finding the parasite of venereal disease and as many have been the failures. The coccus of gonorrhea alone has been discovered; the bacterium of syphilis itself remains a pium desiderium. With certainty was it expected that a pathological parasite would be tracked in variola; more than one bacterium was actually found, but none pathogenic. In hydrophobia (lyssa, rabies) all appearances seem to promise that it would prove to be a microparasitic disease; its contagiousness is undoubted; even a vaccine has, as with smallpox, been prepared, and yet no one has been able to cultivate a specific bacillus. And the same is the case with some of the most dreaded contagious diseases. Painful as it may be one can do nothing but wait, observe and experiment. Perhaps pathogenic bacteria will be found, but as long as they are not discovered all assumption is useless if not dangerous. To have learnt this is a good omen for a mighty stride in biological methods.

The other much further elaborated point in the study of infectious diseases is the question of the mode of action of infection. As long as infection by animal parasites was regarded as the type of infection in general, the destructive action was described as the result of a mechanical action just comparable to a bite or devouring. But the exact study of the larger entozoa and organoza soon brought about a complete conversion. Neither the Tænia solium nor the Tænia echinococcus possesses an oral opening. They undoubtedly take in nourishment and draw it from their autosites, or, as they are poetically called, their hosts, but this applies only to absorption of fluids. The feeding of bacteria and other vegetable and plant-like parasites has to be regarded in the same way. They certainly injure the tissues and organs in which they reside by the consumption of important material, but their action is not limited to this. This much we have already learnt in the study of fermentation and putrefaction. It is admitted that organic matter is destroyed by them, but in addition they produce new substances, some of them eminently poisonous. Thus, it has been known for centuries that alcohol is produced by fermentation. The putrefaction-poisons could for a time not be isolated; first Selmi and then Brieger achieved this result. Gradually one ptomaine after the other was found; for the whole group the new term of toxins has been introduced by Brieger instead of the name virus. They are in part crystalizable, invariably diffusible, chemical substances which are bound up neither with cells nor other formed elements, though they are produced by the cell-action of the parasites. They are nowadays described by preference as metabolic products, a perfectly platitudinous notion which has far more sound than sense. In former times people were contented to call them secretory products, and I venture to believe that it is better to stand by this term in order not to lose the analogy with glandular secretion.

There are thus two sides to infection; on the one the actual living parasites, on the other their often poisonous secretions. In the individual diseases now one, now the other property comes to the front. In the case of the hematobiotic parasites poison-formation may well as a rule count as more important; with those that live in the organs the deprivation of nutriment is much more immediately evident. The invention of artificial nutritive media for bacteria has now provided us with a convenient field for research and observation regarding all these questions.

It would be called carrying coals to Newcastle were I to sketch in London the beneficial effects which the application of methods of cleanliness has exercised upon surgical practice. In the city wherein the man still lives and works who by devising this treatment has introduced the greatest and most beneficent reform that the practical branches of medical science have ever known, every one is aware that Lord Lister, on the strength of his original reasoning, arrived at practical results which the new theory of fermentative and septic processes fully confirmed. Before any one had succeeded in demonstrating by exact methods the microbes which are active in various diseases, or in establishing the special functions that they perform, Lister had learnt in a truly prophetic revelation the means by which protection against the action of putrefactive organisms can be attained. The opening up of further regions of clinical medicine to the knife of the surgeon, and a perfect revolution in the basis of therapeutics, have been the consequence. Lord Lister, whom I am proud to be able to greet as an old friend, is already and always will be reckoned amongst the greatest benefactors of the human race. May he be long spared to remain at the head of the movement which he called into existence.

It remains for me to say a word concerning the other great problem, the solution of which the whole world is awaiting with anxious impatience. I refer to the problem of immunity and its practical corollary, artificial immunization. It has already happened once that an Englishman has succeeded in applying this to the nearly complete destruction of at least one of the most deadly infectious diseases. Jenner's noble discovery has stood its trial as successfully, except in the popular fancy, as he hoped. Vaccine is in all hands, vaccination is, with the aid of governments, spreading continually. In the same direction Pasteur worked resolutely, even with boldness; he introduced into practice the vaccines of chicken-cholera, anthrax, and rabies. Others have followed him, and the new doctrine of antitoxins is continually acquiring more adherents. But it has not yet emerged from the conflict of opinions. Still less is the secret of immunity itself revealed. Even if everything points to the view that immunity is based on the condition of the cells and the juices of their parenchyma, and not on the serum of the humors—these being probably only the means of transport for the minimizing as for the fluids—we must still become well accustomed to the thought that only the next century can bring perfect light and certainty on those points. The homeopathic notion that toxin and antitoxin are one and the same, seems so foreign to our biological ideas that very many experimental and practical proofs will be required before it can be admitted into the creed of the future. Before then we must at least have succeeded in finding a way of strengthening the cells in their fight with bacteria by means of immunity.

Let us, in conclusion, turn once more to the special cells which build up the body, and which arise from proliferation within the body. These exhibit numerous analogies with microbes. They also are independent living being, or, as Bücke said, elemental organisms implanted in the social structure of the body. They can be removed, transplanted, and grafted in a new situation. If they increase, and thus form a tumor, this can produce metastases by transplantation. But the process as such is always bound up with a certain number of living elements, is always cellular in character. It is not the flowing blood which makes a tumor or a cell; it is the mother cell from which all new formation originates.

From this consideration I have for decades drawn the conclusion that the local action of the cells, bound up as it is with certain matricial parts, dominates pathological laws, and must also determine the practice of physicians and surgeons. Cellular pathology demands above all treatment attacking the affected parts themselves be this treatment medical or surgical. It is with great joy that I see this deduction ever becoming more widely generalized, be it with more or with less conscious knowledge. Hence follows in surgery the recommendation of early operation or destruction of the focus of disease.

But cells also, just as bacteria, exercise chemical influences. Apart from the destruction which they effect by absorption, they secrete chemical substances. These appear first as tissue-fluids, passing later into the circulation. Thus arises a change in the composition of the flowing juices, particularly of the blood, in fact a dyscrasia. This is, as I have always explained, a secondary dyscrasia, quite distinct from the primary dyscrasias of the humoral pathologists, by localization of which topical disease, and particularly tumors, were supposed to arise. According to my view, each dyscrasia is determined by the taking in of products of tissue-secretion which may now be called metabolic products, or according to the old dictum, recrementitious substances. The tissue-juice, and the excreted material which is returned into the body have of late years gained much esteem. The semen, which I myself have always indicated as the classical example of such a tissue-juice, and exhibited as the prototype of secretion by tumors and organ-cells, has provided materia medica with spermin, as has the thyroid juice with thyroidin and thyroiodin. New substances, some resembling alkaloids, others albuminates, are isolated from various organs, experimentally tested and technically worked up. So arose injection or serum-therapeutics, on the results of which we are not yet in a position to pass a final judgment, though every one who is sufficiently unprejudiced must admit that they have in many cases been good. Experience will determine the value of these methods; you must learn by the aid of practice to deduce the lasting theoretical truths. But never forget that the source of all these substances and secretions is the cell-activity of living tissue, and that its therapeutical or pathological action on the individual organs or tissues can thus accomplish no aim beyond that of exercising a regulatory influence on cell-activity. May the medical school of Charing Cross Hospital continue upon the newly opened path with zeal and good fortune. But may its students at the same time never forget that neither the physician nor the naturalist dares dispense with a cool head and a calm spirit, with practical observation and critical judgment.

ABSCESSES OF THE LIVER.*

BY ED. E. FIELD, M. D.,
Norfolk, Va.

*Read before Medical Society of Virginia, in session at Virginia Beach August 31, 1898.

This title has been selected as embracing all those conditions of the liver in which pus is present, whether it be a primary abscess or one secondary to some other cause.

This paper will be limited to the *etiology, symptoms, diagnosis, and treatment of such abscesses, and the history of a limited number of cases* introduced to illustrate the principles involved.

It is assumed that all present are thoroughly familiar with the anatomy and physiology of the liver; so reference will not be made to the structure or functions of the viscus, except as occasion may require.

The symptoms and treatment of abscess can be more readily appreciated when the underlying causes are understood.

The *causes of abscess* are, for the sake of convenience, divided into two classes: (1) The predisposing, and (2) the exciting.

It can be readily seen that any condition tending to diminish the power of resistance of the liver substance to disease, may be classed as a predisposing cause of abscess.

Among the predisposing causes of abscess may be mentioned:

(1) Alcoholism.
(2) Residence in tropical climates.
(3) Any abnormal condition of the parenchyma caused by—
  Malaria.
  Syphilis.
  New growths.
  Cardiac insufficiency.
  Renal insufficiency.
  Hyperamia of liver.
  Anemia of liver.
  Tuberculosis.

It is reasonably certain that syphilis and tuberculosis do not directly act as exciting causes of abscesses; but the gummata of the former and the broken down nodular masses of the latter offer a suitable nidus for the development of any of the pus-forming germs which may be present in the systemic or portal circulation.

While some authorities claim that in abscess in infants, tuberculosis is the exciting cause, the above is the most rational explanation. It has also been pretty clearly demonstrated that malaria is only a predisposing cause, as the organism of Laveran causes degeneration of the hepatic cells, and has never been known, *per se*, to produce pus under any other circumstances.

Renal insufficiency from sclerosis causes an imperfect depuration of the blood, and a consequent increase of the hepatic activity and hyperæmia, and cardiac lesions inducing congestion predispose to abscess. The effects of alcohol are too well known to need further comment.

Residence in hot climates is undoubtedly the most frequent predisposing cause of hepatic abscess. Europeans resident in India are often attacked with abscess through disregard of the hygienic rules of the tropics; although the disease is also prevalent among the natives.

Men seem to be more subject to the disease owing to their greater exposure to alcohol and syphilis, the proportion being about 30 to 1.

Among the *exciting causes of liver abscess* should be mentioned in the order of their relative frequency—

(1) Dysentery (mainly tropical dysentery), in which the amœba coli is generally present as a causative factor.
(2) Extension of inflammation from adjacent structures.
(3) Pylephlebitis.
(4) Phlebitis of the umbilical vein.
(5) Suppurating hydatids.
(6) Actinomycosis.
(7) Trauma.
(8) Suppuration of gall bladder.
(9) Typhoid ulcer.
(10) Tuberculosis,

Tropical dysentery seems to be far the most frequent cause of liver abscess. Manson says: There can be no question as to the existence of an intimate relationship between dysentery and liver abscess. Numerous and well-authenticated statistics, as well as every day experience attest this. In 3,680 dysentery autopsies, made in various tropical countries, and collated by Woodward, 779, (21 per cent.) revealed abscess of the liver. To quote recent Indian experience: According to the Annual Report of the Sanitary Commissioner with the Government of India for 1894, out of 465 European soldiers who died from dysentery in India during the period 1888–'94, 161 (35 per cent.) had, in addition to dysenteric lesions, abscess of the liver. Conversely, in Egypt, Kartulis, in an experience of over 500 cases of liver abscess, elicited a history of dysentery in from 55 to 60 per cent.; Zancarol, also in Egypt, in 444 cases, elicited a similar history in 59 per cent.; and Edwards and Waterman, in 699 collated cases, elicited a like history in 72.1 per cent. During the period 1870–'95, of 45 cases of liver abscess treated at the Seaman's Hospital, Greenwich, and collated by Mr. Johnson Smith, postmortem evidence, or a distinct history of dysentery was obtained in 38 (84.4 per cent.)

These figures are conclusive as to the existence of an intimate relationship between dysentery and liver abscess. There is good reason, however, for believing that, while they represent the truth, they do not represent the whole truth, and that the association is even more frequent than they indicate.

The question of the amœba coli being the organism producing dysentery as claimed by Councilman and LaFleur, Kartulis and others, and denied by Celli and Fioca, is not within the scope of this paper. Certain it is that in the large proportion of cases of liver abscess, the amœba can be demonstrated.

As illustrating the connection between dysentery and abscess of the liver, I will introduce the following case:

Case I.—A. B., British sailor, aged 60, admitted to hospital ——; had been sick four weeks with dysentery. Temperature ranged from —— to ——. Dysenteric stools frequent. No symptoms referable to liver. A mass about the size of half an orange and slightly tender on pressure, was felt in right iliac region. Patient died four days after admission, and autopsy showed the liver studded with small abscesses which contained the amœba, and ulcerations throughout the colon. The mass in iliac region proved to be the right kidney. Unfortunately, the specimens were destroyed before they could be examined microscopically.

Symptoms—Usually, when the patient comes under observation, the symptoms of hepatic abscess are weight and fullness in right hypochondrium, pain of variable intensity, but usually dull and aching, often referred to right shoulder. Tongue heavily coated, bowels usually move frequently, and stools may or may not be alcoholic as pressure from abcess may affect bile duct. There is usually insomnia (see Case II). Temperature is variable as in other cases of hectic, sometimes being sub-normal, and then suddenly rising to 104 to 105. The decubitus is right lateral or dorsal, usually with knees drawn up. Palpatation shows enlargement of the liver, often extending as low as the umbilicus. The enlargement is by no means symmetrical, but extends in whatever direction the abscess is located. In case number two, liver extended downward nearly to the umbilicus, while in number three it extended scarcely below the edge of the ribs. There is often tenderness on pressure or percussion over the liver. Respirations are shallow and more frequent than normal. Rigors are not uncommon, and patient often has night-sweats. Rapid emaciation is the rule. Complexion is generally muddy, and cachectic in appearance, but distinctly marked jaundice is rare. Spleen is rarely enlarged. A dry hacking cough, evidently a reflex from irritation of the diaphragm or from an inflamed condition of lung or pleura over the seat of abscess, is not unusual. Should the abscess discharge through the lung, the cough may be very severe, and sometimes causes vomiting. It should be borne in mind that hepatic abscess often closely simulates malaria, and where there is a doubt of the diagnosis, quinine should be withheld until the blood can be examined for the plasmodium. Manson thus emphasizes the similarity of the symptoms of the two diseases:

"Perhaps the most common error is to regard the hectic of liver abscess as attributable to malaria. The regularity with which the daily fever recurs, the daily chillness or even rigor coming on about he same hour, the profuse sweating, and other circumstances so compatible with a diagnosis of malaria, all contribute to this mistake. So common is the error, that Osler says he hardly ever meets with a case of liver abscess which has not been drenched with quinine. My experience is the same. I have seen medical men make this mistake, not only in their patients, but in their own persons. If carefully considered, there are several circumstances which should obviate so serious an error.

(1) No uncomplicated ague resists quinine in full doses.

(2) In malaria, if the liver be enlarged, the spleen is still more so; the reverse is the case in liver abscess.

(3) The plasmodium cannot be found in the blood in non-malarial hepatitis.

(4) In liver abscess, the fever is almost invariably an evening one; in malaria it most frequently comes on earlier in the day.

(5) Quotidian periodicity, contrary to what is the case with tertian or quartan periodicity, is by no means pathonomonic of nor peculiar to malaria.

(6) The almost invariable history of antecedent dysentery or, at least, of bowel complaint in liver abscess."

Case II.—Michael Quinn, fireman of steamship; native of England; admitted January 31st, 1897; been sick fifteen days; pain in region of liver; insomnia, bowels torpid; temperature 98.6° pulse 68; respiration 24. Had lost flesh and felt unwell for about a year; free drinker: gave history of syphilis. Physical examination showed a greatly enlarged liver extending from about the fourth rib anteriorly down as far as the umbilicus. The liver could be felt through the abdominal walls as a hard, more or less elastic mass, but there was no fluctuation. The lungs were normal; spleen negative, bowels somewhat constipated, and stools alcoholic. Respiration accelerated. Diagnosis of hypertrophic cirrhosis was made. Temperature rose next day to 100.4°. Podophyllin and sodium phosphate were given, and an application of nitro hydrochloric acid, one drachm to two pints, made to the region of the liver. For two or three weeks the treatment alternated between sodium phosphate and nitro-hydrochloric acid without any improvement of the symptoms. Finally slight fluctuations was felt just below the ribs, and an aspirating needle introduced. Pus was found, and an incision made two inches below and nearly parallel with ribs of the right side. Slight adhesions only were found, and the capsule was stitched to the wound and the abscess carefully opened. About four pints of pus, bile, and hydatids were discharged, and, after careful exploration with the finger, a glass drainage tube was introduced, packed with iodoform gauze, and heavy dressing applied. The patient reacted well and made an excellent recovery. It is a noteworthy fact that the temperature of this patient rarely went above 99° and never exceeded 101.4°, and, after the operation, was persistently sub-normal, at one time falling to 96°. I neglected to state that the wound was washed out each day with sterilized water. A prominent feature in this case was insomnia, which was partly due to pain.

Case III.—Moosa Allo, Hindu sailor, age 35. Temperature on admittance, 100.4°; pulse 88; respiration 22. Tongue pale, broad, and covered with a heavy, white coat. Several copious, frothy, slate-colored stools daily.

Apathetic. Had been sick for two weeks. Temperature variable, the extremes being 96.2° and 103.4°. It was usually lower in the morning, but not infrequently the remission was in the afternoon. Diagnosis of atypical typhoid was made.

Widal's test was not practicable, and, on account of the dark color of the patient, it was impossible to verify or disprove the diagnosis through the evidence of petechial spots.

The liver was enlarged, but extended a very short distance below the ribs. Dullness extended from the fourth rib in front and fifth on the axillary line to point described. His feet and legs became œdematous, and pain increased.

An aspirating needle was introduced between ninth and tenth ribs, and showed pus. A distressing fit of coughing showed that the pleura had been punctured, and the operation did not clear up the diagnosis between empyema and hepatic abscess, although the pus looked like that from the liver. An incision was made, and about two and a half inches of the tenth rib resected. The pleura was found to be healthy, and the lung having been forced upwards by pressure, the outer and inner layers of the parietal pleura were stitched together. The needle still remaining *in situ*, the right leaflet of the diaphragm was opened and stitched to the capsule of the liver. There were no adhesions, an incision was made into the liver, and about three pints of chocolate-colored pus evacuated. Iodoform gauze was packed around the wound and a glass tube introduced. Practically the same treatment was adopted as in the preceding case. Patient improved for awhile, but succumbed in about two months to the constant suppuration, which was about a pint daily. As in case two, the temperature after the operation was always subnormal, and at one time fell as low 94 degrees. An autopsy was held, and the liver was seen to contain a cavity about as large as an orange, surrounded by healthy tissue. The right pleura was adherent and contained about a pint of pus. Right lung was compressed and small. Adhesions between liver and diaphragm were firm. There was no pus in abdominal cavity.

Treatment—When the diagnosis of abscess has been satisfactorily made, the only rational treatment is to evacuate it as soon as practicable.

First. Ascertain a point of fluctuation, if possible, or even a probable point of suppuration, and introduce an aspirating needle under strict aseptic precautions. A rather large needle should be used, as liver pus is generally very thick, and will not pass through a fine needle. Push the needle deeply into the liver, pull back the piston, and if pus does not flow, withdraw the needle slowly, in order that any pus cavities which may have been traversed by the needle may drain into its lumen. Under no circumstances push the piston down during the removal of the needle, lest pus be forced into the peritoneum or pleura, (but maintain the vacuum.)

If no pus is found, withdraw the needle until the point is near the walls, and changing the direction of the needle, re-introduce, as in the previous manner.

This procedure can be repeated several times without danger, provided you are careful about your asepsis. This should be done under anæthesia, as it is quite painful, and if the pleura is punctured, may give rise to unpleasant reflex symptoms. It is claimed by some writers that, even if no pus is found, this procedure will often relieve the existing symptoms.

Having located the abscess, leave the needle *in situ* and carefully dissect down until the peritoneum is reached. If the incision is below the costal line, and if adhesions to liver are satisfactory, open the liver and explore abscess with the finger, due regard being had for the adhesions. If there are no adhesions, and the case is not extremely urgent, pack the wound with iodoform gauze for forty-eight hours, or until adhesions are sufficiently strong to prevent infection of the peritoneum. If the case is urgent, suture the capsule of the liver to edges of the wound before opening the abscess.

If the abscess is covered by the ribs, it will be necessary to resect about three inches of at least one rib, and after stitching together the right leaflet of the diaphragm, and the capsule of the liver, open the abscess, as in the preceding case. In either event, the hæmorrhage will be considerable, but can usually be pretty easily controlled by packing around the tube, which should be of glass five-eighths of an inch in diameter, and fenestrated. After washing out the abscess with hot saline solution, or sterilized water, put on a heavy dressing and apply an adominal binder. The after-treatment should consist in irrigation and dressing the wound at least once a day. In order to cause the tube to drain properly, it should be packed loosely with sterilized gauze for its capillary effect. Owing to contraction of the liver, after evacuation of the abscess, the direction of the tube will be changed so as to necessitate sometimes the use of a curved tube.

The bowels should be kept open. Tonics and a generous diet should be given to combat the large drain from suppuration. It is well to put the patient in a rolling chair, as soon as possible after operation, and wheel him into the open air.

It is needless to say that every precaution should be used to prevent bed sores. Patient should recline on right side as much as possible, to facilitate drainage.

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EDITED BY

St. J. B. GRAHAM, M. D. W. E. FITCH, M. D.

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SECRETARIES OF MEDICAL SOCIETIES will do us a favor by keeping us informed of dates of meetings of same, etc.

INFLUENZA.

Influenza is once again claiming its victims among us, and it must be remembered that the disease has its protean aspects. Leichtenstern makes the following distinctions regarding the malady: Epidemic influenza vera due to infection by the bacillus of Pfeiffer; endemic epidemic influenza vera which seems to follow for several years in the wake of a pandemic, caused by the same bacillus; endemic influenza nostras, catarrhal fever or pseudo influenza, usually termed the *grippe*, the cause of which is at present unknown and which is seen more or less during every winter and spring. It is now generally admitted that the bacillus of Pfeiffer is the cause of influenza vera and that the disease is highly infectious, as it spreads rapidly from a certain focus through the ordinary roads of travel, but goes no faster than it can be carried in this manner. The disease assumes very varied types, due we suppose to the bacillus attacking that portion of the human organism which offers least resistance and which differs in different individuals. The types are usually classified as the gastro-intestinal, respiratory, nervous, and febrile forms. This latter type we wish to speak of in particular as it may be of importance to some one as an aid in differential diagnosis. The fever is sometimes almost the only symptom of this form of influenza and resembles very much septic absorption from pus or septic poisoning, with frequent chills and a variable fever at one time high and in a short space of time almost normal, then a chill and rise of temperature. This may continue for days and even weeks and may lead to a mistaken diagnosis of typhoid fever or continued type of malarial fever. Usually there is great prostration, out of proportion to the apparent severity of the disease; neuralgia is a frequent symptom, particularly affecting the supra-orbital nerves and their branches and for the relief of which nothing seems to work so well as a blister over the spot. In the treatment of this type of the disease medicinal antipyretics must be used with caution in those of delicate constitution and weak hearts. In the more robust acetanilid, or, better, antikamnia combined with salol, is frequently of great service. Where there is much nausea the stomach should be given rest; if indicated, small doses of calomel may be given. The patient should be nourished by rectal feeding of peptonized milk. When the stomach becomes more quiet panopepton with vichy water is very grateful and well borne, as is also the white of egg, raw, with vichy or plain water. High irrigation of the bowels is of service, and moist hot application to the abdomen serves a good purpose. Quinin of course is indicated if mixed infection with malaria is present, which we have seen, although Anders states from statistics that during epidemics of grip the number of cases of malaria is diminished. There being no specific for the disease, careful nursing combined with baths, topical applications, judicious medical treatment of the symptoms and careful attention to proper nutrition and stimulation is about all that the best physician can do.

SHALL IT BE "SURGICAL INTERFERENCE" OR "SURGICAL INTERVENTION?"

We have never understood why authorities in surgery use the word "interference" when speaking of operative or surgical treatment. When a surgeon performs an operation for the correction of a deformity, the mitigation of pain or the saving of life, does he mean to say that he interferes? If it be interference then he is culpable; but certainly no operator wlll plead guilty to the charge of doing meddlesome surgery, and the inevitable conclusion is that the term "surgical interference" is a misnomer. Whenever we read it in text-books, or in current literature, we feel like substituting the word *intervention* for "interference," using the word intervention in the sense of interposition, or, better still, mediation—a coming between for a friendly purpose. The word interference suggests the idea of collision, clashing, opposition, officiousness, intermeddling, etc.

According to Webster: "A man may often *interpose* with propriety in the concern of others; he can never *intermeddle* without being impertinent or officious; nor can he *interfere* without being liable to the same charge, unless he has rights which are interfered with."

Let us see what Trench has to say. We quote: "In our practical use, *interference* is something offensive. It is the pushing in of himself between two parties on the part of a third who was not asked, and is not thanked for his pains, and who, as the feeling of the word implies, had no business there; while interposition is employed to express the friendly, peace-making mediation of one whom the act well became, and who, even if he was not specially invited thereunto, is still thanked for what he has done."

A few days ago we suggested this improved phraseology to two of our surgical friends, both of whom are teachers of surgery and liberal contributors to surgical literature. They agreed with us that the point was well taken, and announced it as their intention to adopt the suggestion. Speaking for ourselves, this journal will hereafter use the term surgical *intervention* instead of surgical interference, and we shall hope to see its general adoption by surgical writers. —*Richmond Journal of Practice.*

EDITOR'S TABLE.

The British foreign office, in co-operation with the Royal Society, has resolved to send out a commission of three medical experts to make an exhaustive study of African malarial fevers, and black-water fever in particular. The gentlemen selected for this important task are Dr. R. S. Christopher, Dr. J. W. Stevens, and Dr. Daniels, formerly of British Guiana, and after certain preliminary investigations in Rome and India, they are to proceed to Blantyre, where they will in all probability be engaged for about two years. Why cannot our own government appoint a similar commission to study the tropical fevers of our country? We are practically in ignorance regarding these fevers. We do not believe at all in Prof. Koch's theory that black water fever is quinine poisoning. We do not see how a scientific man can make such an assertion. There are numberless cases where extremely large doses of quinine are given and the black water is not apparent. Long ago it was common in this section, now it is rarely seen. It occurs in patients who have not taken quinine in months. It is endemic in certain river bottom sections. We must not be too sure that it is malaria either, in the sense that it is due to the plasmodia of Laveran. It is well for progress for generally accepted ideas to be challenged. We believe that the term malaria should be strictly limited to the disease where plasmodia are to be found in the blood—in other words, Laveran's disease. We are convinced, from observation and experience, that black water fever is due to infection by an organism yet undiscovered. Let us hear from somebody who has had much experience with hemorrhagic fever. We know this journal goes to such men, and why can't they say something?

A new army hospital, the largest under the control of the government, is being constructed of Georgia pine in this city at a cost of $150,000. There will be several buildings, all designed and constructed with a view to permanency. The ground plan of buildings will be rectangular, with covered ways connecting all of the buildings with each other, and with the administration-building in the center. Each of the four sides of the quadrangle will contain a ward with a capacity of 250 beds. One ward will be devoted to surgical cases, and an enclosed passage-way will connect it with a modern operating-room. In addition to the general wards there will be private rooms for the accommodation of invalid officers. An unlimited supply of artesian water will be provided. Coal baseburners will supply heat. An ice factory is situated within a short distance of the site, and the cost of ice is small. The officers' quarters will be of two stories. The dormitories for the nurses and the hospital-corps will occupy two buildings. The chief surgeon will have a private residence.

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OX GALL IN CONSTIPATION—The *Therapeutische Monatschefte* (1898, p. 239) quotes *Le Monde méd.*, 1898, No. 1, for the statement that Plaff speaks highly of ox gall in chronic constipation due to weakened peristalsis of the small intestine. He uses it in pills coated with salol to hinder its absorption by the stomach. One to two grammes pro die are given before meals.—*The Dominion Medical Monthly.*

⁂

We have recently received a communication from Chicago, Ill., asking for our *rate* card and inquiring after the extent of our circulation. This information was furnished, and thereupon we were forwarded copy for one-fourth page, accompanied by check payment in advance, both of which were returned with the information that we did not care to *besmirch* our pages with such matter. The advertisement goes on to say that "the degree of M. D. can be lawfully conferred at home upon any undergraduate practitioners furnishing sworn statements from the county officers certifying that they have practiced medicine successfully for years." It also asserts that "students attending the medical college advertised may be graduated when competent, *independent of the short length of time attending.*" As a bait it is asserted that "the 'ad.' appears in the *Medical Brief*, of St. Louis."

We are sorry to see such an "ad." even in a *trade sheet.*

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PAMPHLETS RECEIVED.

Conjunctivitis—By W. H. Wakefield, M. D., Charlotte, N. C.

Impaired Ventilation and Drainage of the Nose the Most Common Causes of Nasal Catarrh—By Edwin Pynchon, M. D., Professor of Rhino-Laryngology and Otology, Chicago Eye, Ear, Nose and Throat

College; Senior Assistant Aural Surgeon, Illinois Charitable Eye and Ear Infirmary, Chicago, Ill.

Gastroptosis—Presented to the Section on Practice of Medicine, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1–4, 1897. By Chas. D. Aaron, M. D., Instructor in Materia Medica, Detroit College of Medicine, Detroit, Mich.

Intestinal Auto-intoxication.—By Chas. D. Aaron, M. D., Detroit, Mich., Instructor in Materia Medica, Detroit College of Medicine.

Chronic Catarrh of the Stomach—By Chas. D. Aaron, M. D.

State and Municipal Care of Consumptives.—Address delivered by invitation at the Thirteenth Annual Meeting of the Conference of State and Provincial Boards of Health of North America, at Detroit, Mich., August 11, 1898, by S. A. Knopf, M. D. (Paris and Bellevue, N. Y.), New York, Physician to the Lung Department of the New York Throat and Nose Hospital; Former Assistant Physician to Professor Dettweiler, Falkenstein Sanatorium, Germany; Vice-President of the Pennsylvania Society for the Prevention of Tuberculosis; Fellow of the New York Academy of Medicine; Laureate of the Academy of Medicine of Paris, etc.

Some Observations of General Interest Regarding the Course and Management of Cataract.—By J. H. Woodward, B. S., M. D., of New York City, Formerly Prof. Materia Medica and Therapeutics, University of Vermont; Formerly Prof. Ophthalmology, Otology and Laryngology, University of Vermont; Member of the Vermont State Medical Society; Member of the American Medical Association; Member of the New York Medico-Surgical Society; Member of the Society of the Alumni of Bellevue Hospital; Member of the Société Françaíse d'ophthalmologie; Member of the New York County Medical Association; Fellow of the New York State Medical Association, etc.

Medical Service and Medical Fees—The Business Side of the Practice of Medicine—By C. H. Hughes, M. D., President of the Faculty and Professor of Psychiatry and Neurology, Barnes Medical College, St. Louis.

An Essay on the Reduction of Obesity—A Reliable and Harmless Way to Diminish and Cure Over-Fatness—By William T. Cathell, A. M., M. D., Baltimore. Read at the Ninety-ninth Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland.

Further Observations Regarding the Use of the Bone-Clamp in Ununited Fractures, Fractures with Malunion, and Recent Fractures with a Tendency to Displacement—By Clayton Parkhill, M. D., of Denver, Col.

Transillumination of the Stomach with Demonstration on the Person—By Chas. D. Aaron, M. D.

Acetanilid: Its Use as a Preventive Measure in Premature Expulsion of the Ovum—By Stephen Harnsberger, M. D., Catlett, Va.

The Value of Surgery in Nervous Diseases—By Henry Waldo Coe, M. D., Portland, Ore., in charge Mindsease Sanitarium for Nervous, Mental and Drug Diseases; Member of American Medico-Psychological Association and American Electro-Therapeutic Association; Consulting Neurologist to the Oregon State Institution for the Deaf, Dumb and Blind, etc.

Modern Treatment of Tuberculosis—By Charles Denison, A. M., M. D, Emeritus Professor of Diseases of the Chest, and of Climatology, Medical Department University of Denver; Ex-President American Climatological Association; Author "Rocky Mountain Health Resorts," "Climates of the United States in Colors," etc., Denver, Col.

The Aseptic Animal Suture; Its Place In Surgery—By Henry O. Marcy, A. M., M. D., LL.D., Boston, Mass., Surgeon to the Cambridge Hospital for Women; late President of the American Medical Association; President of the Section on Gynæcology, Ninth International Medical Congress; late President of the American Academy of Medicine; Member of the British Medical Association; Member of the Massachusetts Medical Society; Member of the Boston Gynæcological Society; Corresponding Member of the Medico Chirurgical Society of Bologna, Italy; late Surgeon U. S. A., etc.

The Surgical Treatment of Uterine Myomata—By Henry O. Marcy, A. M., M. D., LL. D., Boston, Mass., Surgeon to the Cambridge Hospital for Women; late President of the American Medical Association; President of the Section on Gynæcology, Ninth International Medical Congress; late President of the American Academy of Medicine; Member of the British Medical Association; Member of the Massachusetts Medical Society; Member of the Boston Gynæcological Society; Corresponding Member of the Medico-Chirurgical Society of Bologna, Italy; late Surgeon U. S. A., etc.

Nosophen and Antinosine in the Treatment of Genito-Urinary and Venereal Diseases, with Report of Cases—By Claude A. Dundore, M. D., Philadelphia, Pa.

BOOK REVIEWS.

Manual of Chemistry. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book specially adapted for Students of Pharmacy and Medicine. By W. Simon, Ph. D., M. D., Professor of Chemistry and Toxicology, College of Physicians and Surgeons, Baltimore; Professor of Chemistry in the Maryland College of Pharmacy. New (sixth) edition. In one 8vo. volume of 532 pages, with 46 engravings and 8 colored plates illustrating 64 of the most important chemical tests. Price, cloth, $3.00 net. Lea Brothers & Co., publishers, Philadelphia & New York.

Simon's Manual, sixth edition. The general practitioner and medical student are again under obligations to the author, who has succeeded as only a busy instructor can, in giving a large amount of thoroughly reliable matter in a clear cut, brief, still comprehensive style; and to the publishers for the handsome, attractive and handy volume, clear type, paper elegant quality. The science of chemistry is growing all the time, and one may devote his whole time to the subject and then not be master of the situation. In examining this book it seems to us that the author has done and said everything that should have been done, and omitted those things that are irrevelant. This he has done and kept within reasonable page limits without sacrificing a liberal and judicious distribution of the matter.

The work is divided into seven parts. The author commences by giving the fundamental principles briefly, so as to lay the foundation necessary for the thorough understanding of chemical phenomena.

Part II treats of the principles of chemistry; the author goes into the anatomic constitution of matter. No chapter of the book is of any more importance than this one, and none is presented in a more clear and concise manner.

Parts III and IV are devoted to non-metalic and metalic elements and their compounds. Under each of these chapters the symbols and atomic weights of the various metals and metalic compounds are given.

The Fifth Chapter is devoted in part to analytical chemistry, and will serve the student as a guide in analytical work.

Qualitative methods are chiefly considered, but a chapter is added giving all official methods for volumetric determinations.

Part VI treats of the principles of organic chemistry briefly, but sufficiently to give a clear understanding of the general character and a knowledge of the bodies, which are most important in medical science.

The Seventh, and last, Part treats of the principal facts of physiological chemistry, prepared especially for the benefit of the medical student.

Even the expert analyst will consult the admirably gotten-up test colors, which cannot fail to be very valuable to the student and render the work particularly suited for self instruction. We at once pronounce this the best chemistry we have ever examined. Few works of its size, or even larger, will meet the demands of so varied a class of students, either as a text-book or one of reference, and we believe it will go on its road of popularity through many more editions.

A Text Book of Obstetrics, by Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania, with 9 colored plates and 653 illustrations in the text. Cloth binding, $5.00 net. Sheep or half morocco, $6.00 net. Philadelphia, Pa.: W. B. Saunders, 926 Walnut St.

This work is the outcome of the author's twelve years' experience in an exclusive practice in obstetrics and gynecic surgery, and from his experience during the whole of his professional career teaching medical students. We venture to say that this work will, at an early day, become a leading text book. The author's *rich* experience and training peculiarly fits him for the preparation of a text book to serve as a guide to undergraduate students and practitioners.

The subject matter is divided, for convenience, into eight Parts. Part I, Pregnancy; Part II, Physiology and Management of Labor and the care of the Puerperium; Part III, The Mechanism of Labor; Part IV, The Pathology of Labor; Part V, The Pathology of the Puerperium; Part VI, Obstetric Operations, and Part VIII, The Newborn Infant. Each part is written in a clear, practical style peculiar to the author. We predict for this work a large sale, and no doubt the author will soon have to issue the second edition. The united thanks of the profession are due Dr. Hirst for the favor to the students and practitioners in giving them such a practicable well-written text book. The Reviewer lays it down, feeling sorry that there is not just a little more of it. We congratulate Mr. Saunders on the elegant style of paper and type and commend it to every student and practitioner.

A Text Book of Practical Therapeutics: With especial Reference to the application of Remedial Measures to disease and their employment upon a Rational Basis. By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. deSchweinitz, Edward Martin and Bartin C. Hirst. New (seventh) edition. In one octavo volume of 770 pages, illustrated. Cloth, $3.75; leather, $4.50, *net.* Lea Brothers & Co., Philadelphia and New York.

The first edition of this work appeared seven years ago. The author has thoroughly revised his work at each of the frequent calls for a new edition and the medical public may look to it for all the latest real advances in applied therapeutics.

The favor it has realized at the hands of the Profession is due to the very ingenious plan and to masterly execution of Dr. Hare. The volume consists of two parts, one on Drugs and remedial measures, and the other on diseases, each part being arranged alphabetically for convenience of reference.

The rational classification of Drugs meets our approbation, each of the two parts is written with the other in view and copiously cross-referenced, this is done for convenience affording the reader a ready-reference book to which he may turn in a moment for desired information. The subject of medical electricity has heretofore commonly found a place in most text books on Therapeutics. We notice in this volume it has been advisedly omitted since electrical Therapeutics have outgrown any work save one devoted alone to that subject;

the author embraces the opportunity, and makes the text conform to not only to the Pharmacopia of the U. S. but also to the British Pharmacopia. The author very wisely prepares two indexes, one of Drugs and one of diseases and remedies, the latter being annotated with suggestive doses and other useful information. In a word Dr. Hares' work is an unrivaled authority on Therapeutics, as well as an authoritive guide to the practice of medicine. The author's motto, "When called to guide a patient through an illness the Physician should be constantly a watchman, and therapeutist only, when necessity arises" is well worth remembering.

The Principles and Practice of Medicine, designed for the use of practitioners and students of medicine, by William Osler, M. D., Fellow of the Royal Society; Fellow of the Royal College of Physicians, London; Professor of Medicine in the Johns Hopkins University and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore; formerly Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. Third edition, entirely revised and enlarged. New York, D. Appleton & Company, 1898.

This work and its distinguished author are so well known that it is only necessary for us to say that this is the third edition of the book. In its revision, as in former editions, the author shows his genius, deep learning and great ability, and he has brought this edition fully up to date in every sense. Much that is new has been added, and thirty-five articles have been thoroughly rewritten. What we admire in it is the author's terseness, which is full of depth, and the directness and simplicity of treatment characteristic of great men. The book partakes of the genius of its creator. The publishers have also done their part admirably.

Medical Diseases of Infancy and Childhood, by Dawson Williams, M. D., Physician to the East London Hospital for Children. In one 12mo. volume of 629 pages with 18 illustrations. Cloth, $2.50 net. Lea Brothers & Co., publishers, Philadelphia and New York.

This small volume is not intended to replace any of the larger or more voluminous text-books on this subject, but is intended as a handbook for young practitioners of medicine, who have not previously paid much attention to this subject. It is intended as a guide to the clinical study of disease as it occurs in infancy and childhood. The author does not describe fully diseases which present symptoms similar at all ages. His object is to indicate the special incidence of disease in childhood; to elucidate, as far as possible, the causes of this special incidence; to point out the peculiarities which the circumstances of child-life impress upon familiar diseases, and to detail the treatment rendered appropriate by the nature of the disease itself and by the peculiar susceptibility of the growing organism. In discussing the question of treatment prominence is given to the rational basis afforded by pathology, microscopy and clinical observation and investigation. The volume is well bound, with many illustrations in the text, and altogether a handy hand-book for reference.

The Medical News Visiting List for 1899. Weekly (Dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, 60 patients weekly per year). The first three styles contain 32 pages of data and 160 pages of blanks. The 60-patient Perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, with pocket, pencil and rubber. Seal Grain Leather, $1.25. Thumb-letter Index, 25 cents extra. Philadelphia and New York: Lea Brothers and Co.

We hardly need to remind our readers that a new year will soon be upon us and that a new visiting list will be required.

For nearly half a century the one published by Lea Brothers and their predecessors has been a favorite. Revisions have been made through a series of years, until any further change would be neither desirable or practicable. Besides the blank daily records, it contains tables for converting the ordinary weights and measures into the metric system, the Fahrenheit scale into centigrade, instructions for the examination of the urine; important incompatibles: artificial respiration, poisons and antidotes, a very complete posological table in both systems of weights and measures, and a very handy list of several pages of therapeutic reminders, directions for ligation of arteries. In the back it has a patented thumb-index for general memoranda, obstetric engagements, vaccination, deaths, addresses and, last but not least, a cash record. Bound in limp leather it is the right size and weight and never wears out.

The Physicians' Visiting List for 1899, published by Messrs. P. Blakiston Son & Co., Philadelphia, is ready.

We are pleased to see that there is a tendency to cut out some of the medical literature that has been finding its way into these books. Most of this matter is out of place here and uselessly cumbers the volume. What has been retained in this List will prove a convenience to the physician, but more still might be omitted. It is not, or should not be, necessary for the physician to carry about with him rules for treating asphyxiated persons, for reducing the readings of different thermometers, or for ascertaining the day when labor may be expected. The suggestions in metric prescription writing and the table of doses in Apothecary and Metric systems are useful in the attempt to popularize the latter. The List has the usual departments for daily records and various memoranda. It is bound in flexible cover and the price remains the same—25 patients a week,

$1.00; 50 patients a week, $1.25; the same in two volumes, $2.00; perpetual, $1.25.

Diet for the Sick, by Miss E. Hibbard and Mrs. Emma Drant, matrons at two large hospitals in Detroit. 103 pages; board sides, postpaid, 25 cents. The *Illustrated Medical Journal* Co., Detroit, Mich., publishers.

This is the third edition of this handy and popular little bedside book. The recipes for sick dishes have all been tried, and are those largely used by the Detroit hospitals, where the two contributors of them served as matrons. Added to these are various Diet Tables, as for: Aæmia, Bright's Disease, Calculus, Cancer, Consumption, Diabetes, Dyspepsia, Fevers, Gout, Obesity, Rheumatism, Uterine Fibroids, etc., as given by the highest authorities. The booklet is intended to be given to the family by the physician, and for such purposes one half dozen will be sent, prepaid, on receipt of $1.00.

Landis Obstetrics, by Henry G. Landis, M. D. Revised and edited by Wm. H. Wells, M. D., assistant Demonstrator of Obstetrics, Jefferson Medical College, Philadeiphia. Sixth edition, enlarged and revised. Text elucidated with 47 illustrations. Price, 80cts., Philadelphia, Pa., P. Blakistons Son & Co., 1012 Walnut St.

The necessity for the production of the sixth edition of this valuable self-help indicates the esteem in which it has for years been held by students and practitioners of medicine. Many changes have been made since the last edition, the book is thoroughly modern and up to date.

A Treatise on the Science and Practice of Midwifery, by W. S. Playfair, M. D., LL.D., F. R. C. P., etc. Seventh American from the ninth English edition, with seven plates and 207 illustrations. 687 pages. Published by Lea Brothers & Co., Philadelphia and New York.

This book is also a well known old friend and comes to us now after twenty-two years, in a new dress; this alone speaks for its value. The author's style is directness, and he is not verbose; having a thing to say he says it and goes on to something else. The chapters treat of Anatomy, Pregnancy, Labor, Operations and the Puerperal State. The colored plates are a feature of this edition. It is a book well worthy a place in every physician's library. The discussion of the operation of laparo-elytrotomy could well have been omitted, or simply mentioned as history.

PROGRESS
—OF—
MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

W. Z. HOLLIDAY, M. D.,

INSTRUCTOR IN MATERIA MEDICA, MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.

RALSTON LATTIMORE, M. D.,

SAVANNAH, GA.

Ichthyol Externally in Rheumatism.—Ichthyol has been shown to be an excellent remedy for the external treatment of acute articular rheumatism, particularly of the chronic form, because of its analgesic and reducing properties. Friedrich Kölbl (*Wien. Med. Ztg.*, XLIII, Nos. 5 and 6), reports having treated 117 cases of acute articular rheumatism at the most various stages and with the most satisfactory results. The method of application is as follows:

The ichthyol solution, prepared, for instance, from ichthyol 50 parts, glycerin 20 parts, and water 30 parts, or from ichthyol and water in equal parts, is warmed, and mull or calico bandages impregnated with it. With these prepared bandages the affected joint is lightly bandaged. It is advisable to clean the affected part with warm water previous to applying the bandage, which should be covered with an impervious fabric to prevent evaporation. The joint so treated is next covered with dry cloths heated to from 40 to 60 degrees C., and these applications renewed every 10 minutes at first, and later, every half-hour. Instead of the solution, pure ichthyol may be used, or an ointment of equal parts of ichthyol and lanolin, which may be painted on the affected part with a soft brush. After the joint has been treated in the above described manner for three or four hours, according to the intensity of the affection, the ichthyol bandage is renewed, the hot applications being omitted, however, and the bandage is permitted to remain for from four to six hours in place. It is then renewed, and the joint cleansed and bound with a soft bandage. As a rule the pains are considerably reduced already after the first packing, the joints softer and more supple, and their movements freer, not only in parts directly treated with ichthyol, but in all the other joints. Repeated comparative trials have shown that hot packings alone do not effect even in the slightest degree, the satisfactory results yielded by ichthyol packings. In chronic acute articular rheumatism the treatment must be carried out for an extended period in order to obtain lasting result. These ichthyol packings, therefore, fully replace the sulphur and mud baths heretofore recommended. Many invalids, unable to visit any health resort, were cured by the application of the hot ichthyol packings every evening on return from the daily occupation. The treatment is also of great benefit in true gout (arthritis deformans). F.

CEREBRO-SPINAL FEVER.—In a lecture on the above, Osler (*Mary. Med. Jour.*, Vol XXXIX, No. 14, p. 717), draws attention to two points of very great moment in the diagnosis of the disease: Quincke's lumbar puncture, which enables one to make a comparatively early diagnosis, and the determination of the Diplococcus inintracellularis as the probable cause of the disease. The spinal puncture, as recommended by Quincke, is a perfectly harmless procedure, though it sometimes requires a little skill to get into the canal. Not only does it do no harm, but in some cases it seems to be beneficial in relieving the pressure. If a dry tap be the result it does not mean that meningitis is not present, for the exudate in the meninges may be of such a buttery consistence that it cannot flow. The determination of the presence of the diplococcus in the fluid obtained by lumbar puncture makes the diagnosis positive. The prognosis in cerebro-spinal fever is by no means hopeless in a large proportion of cases, though that in other forms of meningitis, due to the bacillus of tuberculosis, or the streptococcus, or the pneumococcus, is very fatal.

TUBERCULOSIS OF THE THROAT—ITS TREATMENT.—In the treatment of tuberculosis of the throat, H. M. Thomas (*Jour. of Am. Med. Assn.*, Vol. XXX, No. 22), advises to combine constitutional with local measures. The treatment of the local lesions varies with their character, position, extent, accessibility, topical application, and influence on deglutition and respiration. Circumscribed thickenings, with a non-broken surface, may be treated with creosoted iodine in glycerin or menthol in solution of olive oil. An ulcerated larynx can be relieved with an insufflation of iodoform in solution with sulphuric ether. Laryngual secretion should be removed by direct application of alkaline sprays. When tuberculous ulcers are on the surface, lactic acid, well rubbed in, with a 20 to 40 per cent. strength is valuable. When the resultant eschar falls, repeat the process until cicatrization is established. Where the mucous membrane is not broken, lactic acid, the writer believes, is negative, while 20 per cent. solutions of menthol, in olive oil, injected into the larynx are efficacacious. Cough due to ulceration may be mitigated by insufflation of morphine in one-sixteenth to one-half grain strength. Submucous injections, 3 per cent of cocaine hydrochlorate for pain; orthoform is a valuable analgesic. Painful deglutition can sometimes be relieved by having the patient lie on his stomach, with head and arms over the bed, the feet being higher than the body. In this position water and nourishment can be siphoned through a tube reaching from a receptacle held below the mouth. Much temporary relief can be afforded by the inhalation of vaporized antiseptic oils, which, being carried directly to the abraded surfaces are deposited well over them, and through absorption and mechanical protection greatly allay many of the distressing symptoms attendant upon laryngeal tuberculosis.

Creasote in Gastric Affections.—According to Zangler of Zurich, in a paper on creasote, contributed to the *Correspondenzblatt für Schweizerische Aerzte*, the present tendency to think that the larger the dose of this drug the better in phthisical cases, is by no means justified by experience, for the best results are often obtained with very small doses indeed. He believes that their beneficial effect is due to their action on the stomach, causing it to do its work better, and so to improve the nourishment of the system. He finds that in many cases of purely gastric affections, with or without diarrhea, or other intestinal symptoms, minute doses of creasote will often succeed when other remedies have failed. In the gastroenteritis of children, and in the vomiting of pregnancy, he has been greatly struck with its effects. The doses he gives vary from 1-11 gr. in children to 1-3 gr. in adults. He prescribes it with enough spirit to dissolve it in a spoonful of water, with or without water. Black coffee or mint tea may be employed, if necessary, to disguise the taste. When infantile diarrhea exists, without vomiting, he has often found creasote valuable. In the milder forms of the vomiting of pregnancy small doses of creasote have always produced an improvement, and he thinks that even in severe cases a trial of the same treatment should be made.—*Public Health*, August.

Galvanic Treatment of Vomiting.—Apostoli read a note at the French Society of Electrotherapy, session of July 21, 1898, on the galvanic treatment of vomiting and its best operative technic. His general conclusions were as follows:

1. Galvanization of the pneumogastric nerves, applied according to the rules formulated in 1882 and 1884 by Dr. Apostoli (which comprise the seat, the nature, the dose, the duration, the time and the number of applications), is the most frequently successful means employed for vomiting of pregnancy and most gastric troubles of hysteria.
2. The best method of galvanization of the pneumogastrics is that which permits use of the maximum density of current over the nerves, whether by placing the positive pole single or double, over the nerve, or preferably by placing over each nerve an opposite pole.
3. The bipolar method of using the largest total of lines of galvanic current circulating from one pole to the other, is the method of choice, superior for rapidity and efficaciousness to the monopolar method, which, having only one pole active (simple or divided), can,

all other things being equal, use only the smallest electrical density or the feeblest total of lines of galvanic current.

4. The clinic has confirmed by sixteen years of Dr. Apostoli's practice the superiority of the bipolar method which he recommends and its incontestable advantages in the immediate symptomatic cure of the nervous troubles of the pnenmogastrics (vomiting, gastralgia, nausea).—*Am. Medico-Surg. Bulletin.*

Kryofine as an Anodyne.—Some months ago, when our attention was first called to kryofine as an anodyne there was reason to hope that we had in it a very valuable addition to our pain relieving remedies, especially since it was said to be free from the depressing effects of the analgesics of the coal-tar group. Having used it in quite a number of cases of neuralgia, I have not been rewarded by obtaining the results hoped for. In fact, I might say, that from doses ranging from five to ten grains I have not been able to get any results. H.

Nausea.—For nausea and vomiting in zymotic diseases the following prescription will be found very useful:

℞ Carbolic acid,.............. gtts. iij.
Glycerine,.................. ʒii.
Aqua comphoræ......... q's ad ʒij.
M. Sig..................... ʒj.

Every half hour when nauseated. H.

Quinine in the Treatment of Neuralgia.—In many neuralgic affections, especially when there is a malarial element in the case, quinine is one of the most valuable remedies at our command. In order to get prompt results it is necessary to give it in a single large dose instead of the usual dose of five or six grains. Fifteen grains given once or twice a day, will be found a sufficient quantity in most cases. H.

Argonin in Gonorrhœa.—After an experience of about a year and a-half in the use of argonin in the treatment of gonorrhœa, the writer feels constrained to make a favorable report. The great advantage of using it is the perfect safety of it, and entire freedom from the risk of producing stricture. It is a mucous astringent and is destructive to the gonnococcus. The best way to use it as an injection and in the strength of twenty to thirty grains to the ounce of distilled water. The injections should be used early in the disease. The earlier the better. In this way you effectually destroy the germs before they multiply to any extent or make inroads upon the delicate mucous membrane of the urethra. It is not necessary to use any other than the local treatment. The time necessary to effect a cure is much less than with any other treatment with which I am familiar. In gonorrheal ophthalmia it is equally efficacious. The strength of the solution to be employed is the same. I have used it in solutions up to forty grains to the ounce. Thirty grains is as strong as I have found necessary and this is safe in the hands of the mother or nurse. Solutions of this strength do not give pain, and it is not necessary to work it away or neutralize it, as must be done when using solutions of nitrate of silver in the eye. H.

Protargol in Genito-urinary Therapeutics.—Dr. Paul Guillon employs a 2 per mille solution for vesical irrigation, and finds that it is a complete disinfectant. For gonorrhœa in its various stages, whether used in injections, by irrigation without catheter or with special instruments, or in instillations, the same results are obtained as with potassium permanganate or silver nitrate, perhaps a little less rapidly, but surely and with less local reaction, less recrudescence of the discharge during the first hours after its use, and particularly with no painful sensations before or after treatment. This is especially to be considered in instillations. A small detail of importance is that it does not stain the fingers of the surgeon nor the linen of the patient.—*Revue de Thérapeutique Médico-chirurgicale*, 1898, No. 14, p. 473.

The Treatment of Nephritis Hæmorrhagica.—Dr. A. Kramer reports four instances of the use of methylene [not methyl] blue in dose of one and one-half grains thrice daily. The cause assigned for the appearance of the symptom was "chilling." After the use of this remedy there followed a rapid and complete disappearance of the blood from the urine. There was also observed a marked diminution in the amount of albumin and an improvement in the general condition. This effect upon albumin has been previously noticed by Netschajew, Lemoine, and, in pyelitis, by Dehio. The suggestion is made that possibly this substance may serve for making a differential diagnosis between this condition and hemorrhage due to carcinoma or tuberculosis.—*St. Petersburger medicinische Wochenschrift*, 1898, No. 20, S. 186.

A New Preparation of Quinine for Hypodermatic Use.—Dr. G. Gaglio mixes 2 parts of quinine hydrochlorate or hydrobromate with 1 part of urethane and dissolves the mixture in 1 part of warm water. This gives a stable solution, permanent when cold, of a neutral reaction, and non-irritant. A new chemical compound is formed, because in treating this solution with ether the urethane cannot be extracted nor the quinine precipitated. In the organism quinine is liberated, which produces its usual physiological effects. As for the urethane in the dose employed, it has no action capable of interfering with that of quinine.—*Les Nouveaux Remèdes*, 1898, No. 13, p. 312.

Hæmatemesis and Melæna Neonatorum; Treatment by Calcium Chloride.—Dr. L. A. Parry reports a simple instance of the successful use of this remedy. Five-grain doses were given frequently, so that 160 grains were taken in three days. The hemorrhage began to lessen in twenty-four and ceased entirely in forty-eight hours. —*The Lancet*, 1898, No. 3907, p. 144.

MEDICINE.

UNDER THE CHARGE OF

WM. CLIFTON LYLE, M. D.,

INSTRUCTOR IN CHEMISTRY IN THE MEDICAL COLLEGE OF AUGUSTA, AUGUSTA, GA.

R. L. PAYNE, A. M., M. D.,

NORFOLK, VA.

A STUDY OF THE LESIONS IN A CASE OF TRAUMA OF THE CERVICAL CORD SIMULATING SYRINGOMYELIA.—J. H. Lloyd (*Brain*, p. 81) reports the anatomical findings in one of two cases of this kind, the clinical features of which were published four years ago. During life the patient gave the appearance of syringomyelia, but for reasons given in detail in the original, Lloyd thought there might be inflammatory lesions (pachymeningitis hypertrophica) or perhaps necrosis. The autopsy was made five years after the principal injury. It showed old fractures of the cervical vertebræ, with deformity and callus, causing compression of the cord at the level of the third, fourth and fifth vertebræ. Above the fourth and below the eighth cervical root there was nothing abnormal, externally, on the cord. There were thickenings of the dura at the third and fourth posterior roots, and there was a mass of fibrous tissue at the exit of the seventh root, around a spicule of bone. The brain showed nothing abnormal. The microscopic examination is described fully and should be read in the original. Briefly stated, there was an irregular area of degeneration in the usual position of syringomyelia, with corresponding ascending and descending degenerations. A large portion of the posterior columns, the anterior columns, and the columns of Türck escaped the lesion. In showing the similarity of position to the lesion in syringomyelia, the author raises the question of the relation of trauma to the latter disease, the case reported being separated from cavity-formation only by trifling stages. Less speculative are the remarks on the bearing of the case on the questions of sensory conduction in the cord. Tactile anæsthesia was present in the right foot and leg as high as the knee. It resembled the segmental anæsthesia so often found in hysteria, and the author thinks may have been of that kind. There was also hemianæsthesia to pain and temperature in the side opposite to the main lesion and to the motor paralysis. This may be explained by believing with Van Gehuchten that the long fibres of the posterior columns, passing in by the posterior roots, serve for the conduction of tactile sensibility. These fibres pass up into the nuclei graciles and cuneati, and in the present case there is no evidence of degeneration of these fibres at or about their point of entrance into the nuclei. Van Gehuchten's view, that pain sense and the thermic sense are conducted through the gray matter by way of cells whose axis cylinders form part of Gowers's tracts, is also borne out by the conditions found, Gowers's tract and the direct cerebellar tract being degenerated on the side of the chief lesion all the way up. From these brief extracts the great value of the study made by Lloyd, and its importance to physiologists, as well as to clinicians and pathologists, can be easily seen.—*A. J. of Medical Science.*

MUSCULAR DEGENERATION IN BASEDOW'S DISEASE.—Askanazy calls attention to a condition to which little attention has been paid This is an atrophy of the voluntary muscles in Basedow's disease, with fatty infiltration. It was found in all the four cases examined by the author. The gross appearance was not unlike that in atrophy from non-use, but the distribution of the alteration in all the cases was such as to invalidate at once such an explanation. Of previous observers only Von Recklinghausen, Silcock and Bristowe, Farner and Haemig, and Hanau appear to have noticed the changes, but so uniform and striking were the lesions noticed by Askanazy that it seems likely his results will be generally confirmed now that attention is called to them. The changes were always evident in the muscles usually exposed in autopsies, including those of the eyes, the tongue, and in one case in the pharynx and œsophagus, and to a less marked degree in the thigh muscles. The diaphragm was always intensely affected. The naked-eye changes were usually distinct. Beside the general wasting, the muscle-fibres become pale and difficult to distinguish from fat. The interstitial lipomatosis varies from microscopic infiltration to large masses running into the muscles. Microscopically the alterations are well brought out by methods which stain the fat, such as Marchi's. Fat granules are seen in long rows in the muscle fibres, which are narrow and their nuclei are increased in many places. The nuclei of the muscle cells also often show degenerations. The intramuscular nerves, the spinal cords and brains showed no alteration of note, and none that could be associated with the atrophy. The heart muscle showed pigmentation, slight fatty degeneration, and more or less interstitial myocarditis, but was never affected like the voluntary muscles. The author rejects the views that the changes can be trophic or marantic, and looks on them as toxic. It is noteworthy that Langhans has recently shown the existence of a similar muscular degeneration in cretins, and in the same connection it is interesting to recall that Lemke suggested the existence of a muscle-poison in Basedow's disease. Mackenzie and Revilliod have also noted paraparesis in myxœdema. The clinical importance of the atrophy is obvious. Not only the marked weakness common in the disease, but also the tremor, may be readily explained, as was actually suggested by Mannheim in his recent monograph. Bryson's sign—diminished throracic expansion—can readily be explained by the degeneration of the diaphragm, and the exophthalmos by that of the ocular muscles, better than by any of the older theories. Askanazy gives a good account of the condition of the thyroid gland in his cases, showing, in common with other recent observers, that there is always an alteration of the gland, characterized by epithelial proliferation without increased colloid, in fact often without it. A short discussion of the theories of Basedow's disease ends the paper, the author naturally inclining to the view of Möbius, which, in fact, receives strong support from the observations made and the way in which they are utilized.—*Deutsches Archiv f. klin. Med.*, Bd. 61, p. 118.

THE ALTERATIONS OF THE BLOOD AT HIGH ALTITUDES.—Schaumann and Rosenquist publish (*Zeitschrift f. klin. Med.*, Bd. 35, H. 1–2, 3–4) the results of an extensive series of observations, demonstrating that the changes in the blood observed on mountains are due to an increased production of red corpuscles. The chief proof is furnished by the occurrence of young nucleated cells in the blood of pigeons kept in rarified air, beside an increase in the total number of corpuscles. A large number of observations are given proving the faultiness of other explanations, and the latter are criticised with great acumen. A copious bibliography assists in making this the most authoritative piece of work on the subject.—*A. J. of Medical Science.*

THE EFFECTS OF ANTERIOR POLIOMYELITIS ON THE UPPER NERVE CENTRES.—Probst adds another to the somewhat limited number of examinations on this subject (*Wiener klin. Wochenschrift*, 1898, No. 30). A man died at sixty-eight years, having had acute anterior poliomyelitis at four years. There was atrophy of the left arm and right leg. A history of long-continued pain and swelling in the extremities made it probable that the peripheral nerves also had been implicated. The brain showed atrophy of the central convolutions on both sides, more marked in the upper part on the right side. The left angular and marginal gyri were also less prominent than usual. Microscopically the cortex in these parts showed normal thickness, but all the cells were small, perhaps diminished in number, but well formed. The medullary rays were thin, the neuroglia of the outer cortical layer increased. In the internal capsules the fibres in the pyramidal tract were abnormally thin, but without signs of degeneration, and the further course of the pyramidal tract was atrophied. Cerebellum, pons, and copora quadrigemina were small, the olivary bodies small but of the same size. Microscopically the cerebellum showed no alteration. The cord showed atrophy of the lateral pyramidal tracts, especially in the lumbar portion, with the usual alterations of an old poliomyelitis. Probst draws the conclusion that the formed but still developing brain is affected by the disappearance of the peripheral neuron, though not to as great an extent after poliomyelitis as after amputation; that the cerebellum is affected by infantile spinal paralysis through paths as yet unknown.

THE LACTIC-ACID BACILLUS OF OPPLER AND BOAS.—Carl Sternberg has studied the biology of this organism, incited by a case in which an erroneous diagnosis of cancer of the stomach was based on the presence of the bacilli in the vomitus of a patient. The cultures from this, as well as those from a case of gastric cancer, showed a striking change of form under various conditions, becoming shorter and thicker on solid media (glucose agar), longer and slenderer in maltose bouillon. The author thinks that the short forms may often exist in the stomach without exciting interest, but that, in consequence of chemical changes, either with cancerous growths or otherwise, they assume the longer and more striking forms.

Much less valuable than these suggestive experiments were some on the agglutination of the bacilli by the serum of inoculated guinea-pigs.—*Wiener klin. Wochenschr.*, 1898, No. 31.

BLOOD COLOR-TESTS AND IRON IN THE BLOOD.—Jellinek (*Wiener klin. Wochenschr.*, 1898, Nos. 33 and 34) publishes the results of a careful and extensive series of observations on this subject. Among the points brought out by his work may be mentioned the confirmation of hæmoglobinæmia in chlorosis (red corpuscles in normal numbers). The chief result of the work was the confirmation of the view that the color-index of the blood as shown by such instruments as those of von Fleischl, even in the improved form devised by Miescher, is not always parallel with the amount of iron in the blood. The latter, he thinks, can be determined with sufficient accuracy for clinical purposes by the ferrometer of Jolles.

[In the latter instrument the iron in a measured quantity of blood is brought into solution and then compared with another solution of known composition. While it may be admitted that the ferrometer is a valuable addition to blood-diagnosis, it should at the same time be pointed out that it does not replace the older color-tests; and while it is more scientific in principle, it is important to remember that in order to give reliable results the instrument requires greater skill and also greater care than such instruments as that of von Fleischl.]

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GENERAL SURGERY.

UNDER THE CHARGE OF
HUGH M. TAYLOR, M. D.
PROFESSOR OF SURGERY IN THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.
WILLIS F. WESTMORELAND, M. D.,
PROFESSOR OF SURGERY IN THE ATLANTA COLLEGE OF PHYSICIANS AND SURGEONS, ATLANTA, GA.

In this era of specialism, commonplace subjects like fractures hardly attract an attention commensurate with their importance. A moment's reflection will suffice to recall our deep interest, from a clinical to a medico-legal and humanitarian point of view, in this universally practiced field of surgery. Very few practice abdominal surgery as compared to the numbers who, from choice or necessity, treat fractures. In the treatment of no class of surgical troubles is there a need for more accurate technical skill and certainty; in no field do we more frequently meet with disasters, avoidable and unavoidable, which work injury to the doctor's peace of mind, if not to his professional reputation. It is not necessary to emphasize the fact that in many instances the surgeon is wholly blameless, but to establish this fact entails, in many cases, great inconvenience and possibly an expense. Occasionally this comes through attorneys who, in serving or sueing corporations, may endeavor to show contributory neglect on the part of the surgeon—in other words, that bad treatment and not the injury was responsible for the result. In a recent murder trial in which we were summoned as an expert, the defense tried to prove that the doctors who amputated the murdered man's limb were responsible for his death, and not the murderer, who, with murderous intent, shattered the limb with a shotgun. Of course we do not for a moment claim that all attorneys are unjust, per contra we have uniformly found them fair and willing to respect candor. This willingness on the part of attorneys should encourage medical witnesses not to be partisan. Medical experts are sworn and paid to tell the truth and to expose frauds. Partisan medical experts are an injury to the profession as a whole. Personally we plead guilty to the crime of having been biased. This, we fear, is not uncommon experience, and has lead to the idea that it would subserve justice to have medical experts appointed by the courts to aid in arriving at the truth. Judges and juries are quick to note biased opinions of an expert, and this is sure to destroy his usefulness. We recall a ludicrous instance which recently occurred in one of our courts. It was a case involving a decision as to whether death occurred from the shock of trauma or typhoid perforation. The judge said to one of the medical witnesses, who was on the side of typhoid fever perforation: "Doctor, if you shot at a rabbit and did not hit him but he tumbled over dead, what would you say was the cause of death?" "By typhoid fever," promptly replied the well drilled medical expert. The lack of courage to say, I do not know, or that the question involved is an open one, offers many stumbling blocks to the medical expert. In so many instances the surgeon is not in any way responsible for the bad result in the treatment of fractures. We recall a case in point. A fracture in or near the elbow resulted in ankylosis, a suit was the outcome. "I knew the arm was not correctly set," said a loquacious woman witness. "How did you know it?" "I took the dressing off and looked at it." However, without any meddling on the part of others, bad results are, in many instances, unavoidable. A review of some of them may be a solace to those of us who meet with such results, may be a protection to us in the event of a suit, or what is perhaps of more importance than all, may enable us to help some brother practitioner who is placed in the awkward position of needing a defence. Attention has often been called to the fact that mistakes on the part of abdominal surgeons do not live to hobble through life as walking advertisements of the doctors' poor skill. They are buried out of sight, while the patient with a deformed limb meets us upon every occasion and will not considerately die or move away. The surgeon may have exercised exceptional skill in saving a mangled limb, with its shattered bones, torn and contused soft parts, blood vessels and nerves. He may have taken many times the trouble in saving a limb that an amputation would have entailed, and yet the damaged limb is exhibited for years as one of his bad pieces of work, while with pride the same patient would exhibit a stump as a beautiful piece of work. It is true that many bad results incident to fractures are due to imperfect coaptation and immobilization,* but apart from this there are conditions local and constitutional which bring about delayed union, non-union, visceous union, atrophy, paralysis, etc. We may have reduced the dislocated shoulder perfectly, but the broken glenoid rim or greater tuberosity may favor redisplacement on the one hand or limit outward rotation on the other. A damage to the musculo spiral nerve in its groove may be torn or contused at the time of the fracture, or pinched between the broken ends of the bone, and immediate manifestations be evinced, but such evidence may also not be appreciable until callus has been poured out and the nerve buried and pressed upon by the exudate. It goes without saying, we not only cannot anticipate such complications, but we are also powerless to prevent its occurrence. An epiphyseal separation may be perfectly adjusted and immobilized and yet, from some cause which we cannot anticipate or prevent, premature ossification of the epiphyseal cartilage may occur, with arrest of growth of the limb and permanent deformity. Such a separation may have given rise to a minimum amount of local disturbance and yet, by the above mentioned changes, may blight the growth of a lower limb. If the peroneus brevis is thrown out of its groove and its ligamentous attachments are torn, the simple sprained ankle, from which we promised a speedy recovery, may stamp us as poor prophets. We meet distressingly often a limping former patient, whom we treated for a supposed uncomplicated sprained ankle. It was not a simple sprain—was probably a fracture sprain —i. e., some part of the articular surface was broken off and bony union insured a damaged joint. A strip or fringe of periosteum may prolapse between any fragment. notably between the fragments of a broken patella and prevent union or give rise to long continued pain, loss of function, etc. In a fracture or dislocation of the elbow a portion of periosteum may be torn and yet bind the fragments together. Periosteum is not separated from healthy bone without tearing off some bone cells with it. In the regeneration, ossification of the bridge of periosteum may result and deformity be permanent. A tendon, notably in the lower extremity, may become adherent about the fracture, and traction on its fixed point may give rise to pain so acute as to incapacitate the patient. Pressure on blood vessels may cause gangrene, oedema, eczema, ulceration, varicose veins, etc. Thrombasis and gangrene are among the possibilities. sharp fragments may cut a tendon and its retraction entail failure of union, and deformity be an unavoidable sequence. Rheumatoid arthritis often fractures near or involving a joint, and is an outcome which we can neither anticipate nor prevent. While the future of compound fractures rests largely with the first dressing, we should recall the fact that infection may be carried to any suitable soil by the blood or by the lymphatics. In so many unavoidable ways bad results may occur in connection with the treatment of fractures, that we should be guarded as to our prognosis, careful in the matter of attention, and charitable to others when they meet with bad results in their practice. TAYLOR.

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* Fractured ribs are rarely perfectly immobilized, and yet non-union is equally rare. Fissure of the skull is perfectly immobilized, and yet a minimum amount of callus is poured out.

CLINICAL REMARKS ON STRICTURE OF THE URETHRA.—The following classification is one which Harrison (*The Lancet*, April 23, 1898) uses for clinical purposes: First, those amenable to some form of dilatation; second, those found to be unadapted for such treatment, and where other measures should be considered; and third, those which may have been regarded as impassable strictures.

The first class includes by far the greatest number and all strictures in their early stages. When this process of treatment proceeds satisfactorily, as it usually does, the patient is soon able to undertake the management of his own case after he has been instructed in the use of the appropriate instrument. It is very easy to injure a stricture and so lose the way through it. On making an examination of this kind, the object should be to ascertain, without causing pain or bleeding, if possible (1) the presence and position of the obstruction, and (2) the degree of contraction which has been arrived at.

For this purpose the author prefers long, flexible bougies, twenty inches in length, which commence in a probe-point and gradually increase in size. They may be softened by placing them in warm water before use, and become so flexible that they will coil up in the bladder. Besides their use as exploratory instruments, he employs them to smooth out a rough urethra and make the access to a stricture funnel-shaped, so that it may be more easily entered. It is sometimes necessary to use filiform bougies to detect the entrance through the stricture. The long bougies ('whips") are useful in relieving retention of urine from a stricture that has contracted. The gradual dilatation produced persists sufficiently after the withdrawal of the instrument, so that the patient is able voluntarily to empty his bladder. They are very safe, as no force can be used with them, and the author believes they should be more generally employed.

The second class are cases that are not adapted to dilatation, as, for instance, those following wounds or injuries of the urethra. The difficulty may arise from the character of the scar tissue, its contractility, or there may be certain constitutional disturbances following attempts at dilatation of the gentlest kind.

These cases the author relieves by introducing a splice of new tissue into the floor of the stricture by internal urethrotomy, usually by Maisonneuve's instrument. As healing takes place under the occasional use of a bougie, a splice is formed of new tissue where the stricture was divided. For forty-eight hours or so before this is done it is well to sterilize the urine with some boric acid taken by the mouth, in small doses, or, as he has found better, boracite. The former sometimes produces indigestion, while the latter is both pleasant and reliable.

The filiform pilot is passed into the bladder, the fine metal director following it. The urethrotome is next run along the groove in the latter, and the strictures are divided from before backward. Care should be taken not to run the blade too far back and injure fibres of the sphincter, or excessive bleeding will be caused. A series of metal bulbous bougies (10–15, English gauge) should be passed successively before the patient recovers from the anæsthetic. All metal instruments for use in connection with a strictured urethra should be bulbous or olive-headed. The bladder is then emptied of any urine it may contain and washed out with a solution of perchloride of mercury (1:6000) until the lotion runs quite clear. An ounce or so is left behind in the bladder so that the first urine voluntarily passed may be sterilized. Carbolized vaseline (three grains to two ounces) is used for the instruments. The author rarely ties a catheter in the bladder unless a chronic stricture has induced an atonic bladder, when a soft catheter may be retained for forty-eight hours or so. On the fourth or fifth day a whip bougie is passed, and the patient is instructed in the use of a suitable instrument.

The third division, the impassable strictures, in the true sense of the word, are seldom encountered, for most of these, so-called, are but relatively impassable. In these cases the author uses Wheelhouse's operation with a staff, doing an external perineal urethrotomy.

THE PATHOLOGY AND TREATMENT OF RECTAL STRICTURES.—In discussing the questions whether there are such lesions as syphilitic stricture of the rectum, and whether it can be recognized by microscopical examination, Rieder (*Arch. für klin. Chir.*, Band iv., S. 730) comes to the following conclusions:

Syphilitic stricture of the rectum does exist.

It arises from the blood vessels (perhaps, also, from the lymphatics).

This origin is the cause of its relative frequency among women.

Concerning the venous involvement early in the disease, the author says it is of practical interest. If we see the veins of the skin filled with cellular infiltration, which probably is the bearer of syphilitic virus, if we see how newly formed and inflamed tissues press into the lumen of veins, then we can recognize not only that local, but that general dissemination of the disease may take place through this route, as was established years ago by Auspitz and Unna. We readily understand how the hard sore practically always occasions general infection, and how excision of the primary sore no more saves the patient than does the disinfection or excision of an infected sore preserve a patient from pyæmia, once the necessary poison has gained access to the venous circulation. The reason why syphilitic stricture of the rectum is much more common in women than in men is found in the anatomy of the parts. In women the lower group of rectal veins anastomose directly with the external pudendal, which arise from the posterior vulvar commissure. This commissure is not rarely the site of a primary sore and of secondary, but more especially of tertiary, lesions. In the male the syphilitic poison, when taken up by the veins, has to take a roundabout course through the vesical plexus before it can go from the foreskin or glans to the rectal vessels. In women the syphilitic virus taken up by the vulvar plexus is at once carried into the hæmorrhoidal veins.

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OBSTETRICS AND GYNÆCOLOGY.

UNDER THE CHARGE OF
WILLIAM S. GARDNER, M. D.,
INSTRUCTOR IN GYNÆCOLOGY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE, M. D
HUBERT A. ROYSTER, A. B., M. D.,
RALIEGH, N. C.

Vaginal Cancer and Vaginal Extirpation.—L. Kessler, of Dorpat (*St. Petersburg Med. Wochenschr.*, No. 34, 1898), says the prognosis of carcinoma of the female genital tract is bad. A collection which he made some years ago showed that but seven per cent. definitely recovered; the prognosis of vaginal cancer is still worse. Of eighty-four cases of primary disease from the *Frauen Klinik*, Berlin, but sixteen were found operable, and of these only one remained free of relapse at the end of two years. The reasons for the unfavorable results in vaginal cancer are found in the anatomical relations as follows: First, the vaginal wall is very thin, with a muscular structure which affords no barrier against the extension of carcinoma, consequently vaginal cancer makes rapid progress, which is promoted by the numerous lymph spaces in the surrounding paravaginal cellular tissue. As this tissue affords but little resistance, the symptoms are trifling, so that the condition remains unsuspected until hemorrhage or characteristic discharge attracts the attention of the patient to the condition, and primary cancer is discovered too late to receive radical treatment; second, an etiological factor in the relapse of this particular form of cancer exists in the fact that small foci exist at some distance about the point of original infection which are unnoticed in the operation, and in a very brief time cause a redevelopment of the scar; third, the fingers of the operator and the instruments convey cancer germs during the progress of the operation, and these, remaining in contact with the wound, are nuclei for relapse. To avoid these methods of infection Olhausen devised a procedure by the rectum from the recto-vaginal septum. Transverse incision of the septum was made. Through this one worked up by blunt dissection between the rectum and vagina to the junction of the posterior vaginal wall and cervix. Dissection was extended laterally until the new formation was completely separated. The further separation of the already loosened cancer is then completed with scissors. If the uterus is to be removed with it after the separation of the posterior and lateral vaginal walls from the wound cavity, Douglas' pouch was opened, the uterus turned down, the ligaments external to the tubes were progressively ligated and then the borders of the loosened part of the vagina cut away with scissors so the cancer was separated. In a very narrow vagina or where the space is limited by the new formation, the excision of the latter can be enlarged after separation of the vaginal wall from its under surface, by splitting the frenulum in a sagittal direction in the neighborhood of the new formation. In the last of Olhausen's three operations by this procedure a not inconsiderable hemorrhage continued for almost two hours, because the relations referable to the bladder were difficult and the ligated ligament still occasioned considerable irritation. Between this operation and its publication only a month transpired, so nothing could be said regarding the duration of the result. The first patient showed, after three years, an inoperable relapse; the second such after three months. The immediate impression of this operation is that it is not very difficult. The opening into Douglas' pouch and the vesico-uterine excavation occurs after complete separation of the vagina from the rectum and bladder and secures as well the extirpation of the uterus. The great advantage of this method, security of complete removal of the disease, if we first, from behind the entire body of the cancer, undermine and undertake its separation, within healthy tissue with scissors.—*International Medical Magazine.*

CHOICE OF METHODS IN HYSTERECTOMY.—Ernest W. Cushing (*Annals of Gynecology and Pediatry*) discusses the various methods of performing hysterectomy. The extra-peritoneal treatment of the stump has been practically abandoned unless under exceptional circumstances. In supra-pubic amputation of the uterus he unites the flaps of the cervix with continuous catgut sutures. Whenever the operation is performed for malignant disease the extirpation should be total; when the cirvex itself is diseased, eroded or secretes profusely unhealthy mucus or pus, it is better to remove it; or when this is removed with the tubes for tubercular conditions or gonorrhœal disease involving its mucous membrane so that there is presumably an infectious condition of the secretions, it is better to perform total extirpation, as it provides for drainage. Cushing considers it necessary to have much greater dexterity, experience and resource to perform vaginal hysterectomy in really the best manner in difficult cases than to operate by abdominal incision. The advantages claimed for the vaginal method are: less danger of hernia, absence of cicatrix in the abdominal wall, less time spent in the operation and less shock. On the other hand, the abdominal operation has solid advantages founded on great principles of surgery and can never be shaken; for it gives greater certainty of diagnosis, greater facility to work by sight, the possibility of recognizing and overcoming unforeseen complications, greater security against wounding intestines and ureters, and better control over hemorrhage. He condemns the method of removing the uterus without using ligatures, believing this too risky to make it a practical procedure.—*International Medical Magazine.*

PERNICIOUS NAUSEA AND VOMITING OF PREGNANCY.—In the *Zeitschrift f. Geburtshülfe und Gynäkologie*, 1898, Band 39, Heft 1, Klein contributes a paper upon this subject, based upon a study of cases observed in the clinic at Munich. He believes, with other observers, that only those cases are to be considered as pernicious vomiting in which the nourishment of mother or child is profoundly influenced and in which the disorder persists. He thinks many cases are distinctly neurotic and some are hysterical. The milder cases recover under careful feeding and proper discipline. Should in any case treatment at the patient's home not be promptly effective, the physician should at once insist upon placing the patient in a hospital. In all cases the retroflexed uterus should be replaced, although he has not seen brilliant results from the use of drugs or other local treatment. When cases are severe it may be necessary to interrupt the pregnancy. It is of especial importance that these cases should not be allowed to become severe.

GRIPPE AS A COMPLICATION OF PREGNANCY AND THE PUERPERAL STATE. —In *L'Obstétrique*, 1898, No. 3, Bar & Boullé report their observations upon fifty women who had grippe during pregnancy or the puerperal state.

In pregnancy, grippe affected the nervous system profoundly in one case, the gastro-intestinal tract in two others, while in the majority the respiratory organs were attacked. In one of the intestinal cases, pyelitis developed, caused by infection with the colon bacillus. The majority of pregnant women in whom grippe affected the respiratory organs, recovered without especial difficulty. A small number had pneumonia, which proved a serious complication. In one patient otitis and meningitis developed, both caused by the pneumococcus. The sputum of these patients showed abundant pneumococci.

So far as the influence of grippe on the continuation of pregnancy was observed but a very few cases had metrorrhagia. Labor itself was not especially influenced by grippe. In one case in which the delivery was artificial a severe hemorrhage occurred. The placenta in these cases was found to be normal.

In the puerperal condition, grippe sometimes occasioned severe complications. Mixed infection with streptococci occurred in some cases, and in one proved fatal. In several patients pulmonary infection with the pneumococus and genital infection with the streptococcus were present in the same patient. It was observed that mixed infections were especially severe; thus, in one case of pneumonia in the puerperal state, there was phlebitis of the external jugular and cephalic veins, in another case the pulmonary lesions were accompanied by endocarditis.

INCARCERATED OVARIAN DERMOID COMPLICATING PREGNANCY.—Spencer describes, in the *Transactions of the Obstetrical Society of London*, 1898, vol. xl., Part III, the case of a multipara, who, on admission to the hospital, was found to be in about the middle of pregnancy. The cervix was high up and pushed forward by a tumor the size of the fist. The tumor lay in front of the rectum and could not be easily moved; under an anæsthetic it was possible to push it up out of the pelvis. It then lay in the left hypochondrium.

The patient was four and a half months pregnant, and accordingly it was thought best to allow the pregnancy to go on to full term and to remove the tumor after delivery. The patient wore an abdominal binder during the rest of the pregnancy, and had no recurrence of the pain from which she suffered while the tumor was in the pelvis.

She was confined in the hospital and had a normal delivery and recovered from labor. Fifteen days after delivery the abdomen was opened and the tumor, an ovarian dermoid, was removed. Its pedicle was twisted. The patient made a good recovery and nursed her child.

THE BACTERIA OF THE VAGINA.—Williams (*American Journal of Obstetrics*, Oct., 1898) critically reviews all recent bacteriological investigations of the vaginal secretions of pregnant women, tabulates the results obtained in his own very careful study of ninety-two cases, and establishes the following conclusions: 1. We agree with Krönig that the vaginal secretion of pregnant women does not contain the usual pyogenic cocci, having found the staphylococcus epidermidis albus only twice in ninety-two cases, but never the streptococcus pyogenes or the staphylococcus aureus or albus. 2. The discrepancy in the results of the various investigators is due to the technique by which the secretion is obtained. 3. As the vagina does not contain pyogenic cocci, autoinfection with them is impossible; and when they are found in the puerperal uterus, they have been introduced from without. 4. The gonococcus is occasionally found in the vaginal secretion, and during the puerperium may extend from the cervix into the uterus and tubes. 5. It is possible, but not yet demonstrated, in very rare instances, that the vagina may contain bacteria, which may give rise to sapremia and putrefactive endometritis by autoinfection. 6. Death from puerperal infection is always due to infection from without, and is usually due to neglect of aseptic precautions on the part of the physician and nurse. 7. Puerperal infection is to be avoided by limiting vaginal examinations as much as possible and cultivating external palpation. When vaginal examinations are to be made, the external genitalia should be carefully cleansed and disinfected, and the hands rendered as aseptic as if for a laparotomy. Vaginal douches are not necessary and are probably harmful.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

UNDER THE CHARGE OF
S. POTTS EAGLETON, M. D.,
LATE ASSISTANT SURGEON TO WILL'S EYE HOSPITAL, PHILADELPHIA, PA.; OPHTHALMIC SURGEON TO MARION COUNTY SURGICAL HOSPITAL, OCALA, FLA.
J. LAWTON HIERS, M. D.,
OPHTHALMOLOGIST AND LARYNGOLOGIST TO BETHESDA ORPHAN ASYLUM, SAVANNAH, GA.

Wool Tampons in the Control of Nasal Hemorrhage.—Dr. Bernard Berens advocates the use of tampons of sterilized lamb's wool, tightly rolled, impregnated with powdered boric acid, nosophen or hydrogen peroxide into the affected nostril. The expansion of the wool will arrest the hemorrhage. The instillation of several pipettefuls of benzoinols easily removes the plug.

A Case of Polyp in Thrapnell's Region of Remarkably Rapid Evolution.—Dr. Ripault, in the *Revue Hebdomadaire de Lav., d' Otol., et de Rhei*, September 10, 1898, reports the following: A cabinet maker, 35 years of age, syphilitic, presented himself with a purulent discharge from the right ear. Perforation of the tympanic membrane was found above the short process of the malleus. He was seen a month later, when, in addition to the discharge, he complained of pain, deafness and the sensation of having a hard body within the external auditory canal. The snare removed an enormous polyp, which had *developed in the space of a month* under the influence of the specific taint. Mercury and cleansing lead to the cure of the case.

The Cure of Purulent Ophthalmia by the Proteinate of Silver (Protargol).—Darier, A., Paris (*La Clinique Ophtalmologique*, of March 25th, 1895). Further investigations have confirmed Darier in the favorable opinion he had already formed of this salt, from which he is led to conclude that it is the most efficient of all the silver-salts in cases of purulent conjunctivities.

For general employment the 20% strength solution should be employed, but he says that it may be used without danger in solutions of strength as high as 50%. He recommends the employment of the 10 to 15% strength solution as a prophylactic measure in cases of infants who are born of mothers suffering from vaginal inflammation. With his article he publishes a note from Neisser, in which the bactericidal action of protargol as compared with the other salts of silver, particularly in their action upon the gonococcus, is spoken of favorably. He has found that the action of protargol is practically painless.

Oedema of the Eyelids.—Dechamp announced, at the recent French Congress of Ophthalmology, that he had been very successful in curing essential oedema of the eyelids with Launelongue's injection of 1-20 zinc chlorid once a week, for six to eight weeks. (*Journal of the American Medical Association*, Nov. 5, 1898.)

Sympathetic Ophthalmia.—Dr. George Ferdinands, in the *British Medical Journal*, reports two cases of sympathetic ophthalmia, remarkable for the length of time that elapsed between the emcleation of the fellow eye for injury and the development of the sympathetic trouble—in one case eighteen years, and in the other about twenty-one years. The interval in the latter case is without precedent. (The *Ophthalmic Record* for October, 1898. Prof. Thompson, of Jefferson Medical College, at one of his clinics several years ago, showed a case of sympathetic ophthalmia occurring after an interval of *nineteen* years.—Ed's.)

Ocular Affections of the Utero-Ovarian Region.—In ocular affections connected with utero-ovarian troubles—which are more frequent than usually supposed—Prof. Mooren relieves the tenacious hyperesthesia of the retina with the following:

℞ Potash bromide, 4 grains;
Lupulin, 6.5 grains;
Pulverized Rhei, 1.5 grains.
Extract of centaurea, q. s.
Make into 120 pills, sq. Take 3 pills three times a day.

Should the ovary be the cause of the ocular trouble, he gives:

℞ Atropia sulphur, 3 centigrams;
Pulverized glycerine, 2.5 grains;
Extract glycerine, q. s.
Make ft. pill No. 2x, sq. Take three pills per day.

If the reflex ocular irritation depends upon some simple functional disturbance in the uterus or ovaries, he administers elixir paracelsus in the dose of fʒss T. I. D. for several weeks in the case of robust patients, otherwise reducing this amount to fʒ½, or merely several drops during the few days preceding the menses. A copious metrorhagia may induce a serious effusion in the retina, or urona-retinitis; which are relieved by cold compresses or ice to the back of the neck, with leeches to the mastoid, and saline purgatives if necessary. Local treatment to remove the cause in all cases.—*Semaine Med.*, Sept. 28. (*Journal of the American Medical Association.*)

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